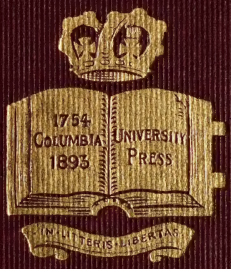
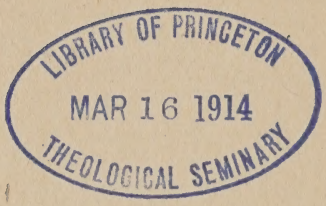

1754
COLUMBIA
1893
UNIVERSITY
PRESS
IN LUMINE TUO VIDEBIMUS LUMEN

PJ3031
.H96



Division PJ 3031

Section .H96

ROOT-DETERMINATIVES IN SEMITIC SPEECH

COLUMBIA
UNIVERSITY PRESS
SALES AGENTS

NEW YORK:
LEMCKE & BUECHNER
30—32 West 27th Street

LONDON:
HUMPHREY MILFORD
Amen Corner, E. C.

TORONTO:
HUMPHREY MILFORD
25 Richmond St., W.

LIBRARY OF PRINCETON
MAR 16 1914
THEOLOGICAL SEMINARY

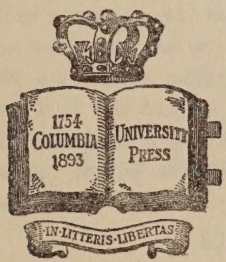
CONTRIBUTIONS TO ORIENTAL HISTORY AND PHILOLOGY
No. VI.

ROOT-DETERMINATIVES
IN
SEMITIC SPEECH

A CONTRIBUTION TO SEMITIC PHILOLOGY

BY

SOLOMON THEODORE HALÉVY HURWITZ, PH.D.



New York
COLUMBIA UNIVERSITY PRESS
1913

All rights reserved

Printed by W. Drugulin, Leipzig.

NOTE

During the last fifty years the horizon of our view upon the extent and development of the Semitic languages has been singularly enlarged; on the one hand by archaeological investigations that have brought to light unknown Semitic civilizations, and on the other by a study of the most modern developments of these languages. The origin and early history of these languages offer a problem that is at once interesting and perplexing. It has been in the mind of scholars since the first attempts were made in Europe to grasp the extent and the importance of ancient and mediaeval Semitic culture. Even in the Early Middle Ages, essays were put forward to solve the question, at least in regard to one of these tongues, the Hebrew. In modern times such undertakings have been quite numerous.

The difficulties in the way of proving any theory that will account for this development are, of course, great: the pitfalls are numerous. Dr. Hurwitz has tried to overcome the one and to avoid the other by a strict adherence to a scientific method and by choosing his examples with great care. It is idle to hope that he will convince all students of so vexed and contentious a question; but he has offered a solution that deserves the careful attention and scrutiny of his fellow-workers in the same field.

May, 1913. RICHARD GOTTHEIL

TO MY MOTHER

HANNAH LANGLEBEN-HURWITZ

PREFACE

The "biliteral theory", sometimes attacked, at other times defended, and almost entirely rejected in recent years, forms the subject of these studies. They were begun in 1907 in a somewhat empirical fashion, but the author became deeply interested in the mass of literature which had accumulated on the subject, although these researches had apparently resulted in hopeless confusion rather than in even an approximate solution of their problem. As a result of his investigations, the writer was very glad to find that able grammarians had not labored for centuries in vain, contending blindly over something that had no existence; but that, on the contrary, the biliteral root in Semitic was an actual entity.

In 1910, encouraged by the friendly interest shown to him at Columbia University, the author presented a thesis in which he briefly outlined the possibility of the assumption of an original biliteral character of the Semitic root as a key to the solution of many vexing problems in Semitic etymology, although he has been obliged, from the very first, to modify his views, and to adopt an entirely conservative position. His results, which have been attained independently, have shown that he has been anticipated in almost every point by such scholars as Pappenheim and Lagarde; but this very fact only renders him the more sure that his position is justified. In fact, he does not claim originality in any one of his conclusions, for they have, each and all, been the historical and logical result of the labors of the

scholarly world before him. He has merely combined, sifted, and profited by the researches—and even by the errors—of former generations, and he believes that he has brought the biliteral theory within a restricted field, and that he has placed it upon a scientific foundation. His method has necessarily been conservative; he has been obliged to consider each of the Semitic languages as an individual unit, the vocabulary of which can best be explained by itself, *i. e.*, by a comparison of kindred words within the same dialect having identical fundamental elements. Only when such means were unavailable was he compelled to tolerate cross-comparisons of words in different dialects, which may have been separated from each other by many centuries of usage[1]. Whatever light semasiology has thrown upon the development of words and their usages he has liberally used. Doubtless a more generous equipment of lexicons (especially for Arabic and Ethiopic) would have aided much, but this defect has long been felt, in the Semitic world of scholarship, and can be remedied only by degrees. On the whole, the fundamental idea conveyed by each root in the various languages is quite evident from a study of all its derived forms.

The subject naturally falls into two divisions: the grammatical and the lexicographical. The first is considered in the opening chapter; the last, which is by far the most important, in the following chapters. A survey of the various theories of former Jewish biliteralists would have been interesting, but would have added nothing of perman-

[1] The rule has been generally applied that it is safest to compare one North Semitic form with its phonetic equivalent in another North Semitic dialect, while South Semitic has been generally compared with South Semitic (Cf. Nöldeke, *Die semitischen Sprachen*, p. 14, and Wright, *Comp. Gram.*, p. 10).

ent value to the subject; since all such theories were based on an imperfect and unscientific knowledge of the laws which govern Hebrew grammar[2]. It was therefore thought advisable not to enter into the matter at the present moment.

The author's thanks are due for the constant aid and advice tendered by his teachers at Columbia University, Professor Richard J. H. Gottheil, Professor John D. Prince, and Professor A. V. Williams Jackson. To Dr. Louis H. Gray he is grateful for many valuable suggestions.

S. T. H. H.

[2] For literature on the subject consult the appended bibliography.

CONTENTS

CHAPTER		PAGE
	Bibliography	xv
I.	The Subconscious Biliteral Root	1
	i. The Triliterality of the Weak Verb—Cause and Origin of the Weak Stem	7
	ii. Denominative Triliteral Stems	19
	iii. Root-Differentiation	30
	iv. Biblical Folk-Etymologies	34
II.	A Study of Pluriliterals and the Resulting Theory	37
	i. Semitic Pluriliterals	40
	ii. Development by Preformatives	55
	iii. Infixation in Semitic Speech	60
	iv. Development by Sufformatives	64
	v. The Triliteral a Developed Stem	66
III.	Examples of Primitive Semitic Stem-Formations	74
	i. Stative Stems	75
	ii. Intensive Stems	85
	iii. Purposive Stems	85
	iv. Causative and Kindred Stems	89
	v. Reflexive and Kindred Stems	95
	vi. Stems with Post-Determinatives	105
IV.	Summary of Results	107
	Index of Roots	111

BIBLIOGRAPHY

A. PERIODICALS

	ABBREVIATION
American Journal of Semitic Languages and Literatures (formerly Hebraica). Chicago 1884 ff.	*AJSL.*
Beiträge zur Assyriologie und vergleichenden Sprachwissenschaft. Leipzig 1890 ff.	*BA.*
Giornale della Società Asiatica Italiana. Firenze 1887 ff.	
Journal of the American Oriental Society. Boston and New Haven 1849 ff.	*JAOS.*
Journal asiatique publié par la societé asiatique. Paris 1822 ff.	*JA.*
Journal of the Royal Asiatic Society of Great Britain and Ireland. London 1834 ff.	*JRAS.*
Literaturblatt des Orients. Berichte, Studien und Kritiken für jüdische Geschichte und Literatur. Leipzig 1840—1851.	
Revue des études juives. Paris 1880 ff.	*REJ.*
Wiener Zeitschrift für die Kunde des Morgenlandes (Vienna Oriental Journal). Wien 1887 ff.	*WZKM.*
Zeitschrift für die alttestamentliche Wissenschaft. Gießen 1881 ff.	*ZATW.*
Zeitschrift für Assyriologie und verwandte Gebiete. Leipzig 1886 ff.	*ZA.*
Zeitschrift der deutschen morgenländischen Gesellschaft. Leipzig 1847 ff.	*ZDMG.*

B. COLLECTED WORKS

Jewish Encyclopedia. 12 volumes. New York and London 1901—1906. *JE.*

Kleinere Schriften von Dr. H. L. Fleischer. 3 Bde. Leipzig 1885—1888.

Morgenländische Forschungen. Festschrift Herrn Professor Dr. H. L. Fleischer. Leipzig 1875. *Morgenl. Forschngn.*

Orientalische Studien, Theodor Nöldeke .... gewidmet. 2 Bde. Gießen 1906.

ABBREVIATION

Semitic Studies in memory of Rev. Dr. Alexander Kohut edited by G. A. Kohut. Berlin 1897. *Sem. Studies*

Symmicta von Paul Anton de Lagarde. 2 Bde. Goettingen 1877—1880.

C. GENERAL SEMITIC PHILOLOGY

Barth, J., Etymologische Studien zum semitischen insbesondere zum hebräischen Lexicon. Leipzig 1893.

— Die Nominalbildung in den semitischen Sprachen. Leipzig 1894. *NB.*

— Sprachwissenschaftliche Untersuchungen zum Semitischen. 2 Teile. Leipzig 1907—1911.

Brockelmann, Carl, Grundriß der vergleichenden Grammatik der semitischen Sprachen. 2 Bde. Berlin 1908. *Grundriß*

Dietrich, Franz, Abhandlungen für semitische Wortforschung. Leipzig 1844. *Abhandlungen*

Huizinga, A. H., Analogy in the Semitic Languages. Baltimore 1891.

König, Eduard, Hebräisch und Semitisch. Prolegomena und Grundlinien einer Geschichte der semitischen Sprachen. Berlin 1901.

Lagarde, Paul Anton [de], Übersicht über die im Aramäischen, Arabischen und Hebräischen übliche Bildung der Nomina. (Abhandlungen der königlichen Gesellschaft der Wissenschaften zu Göttingen xxxv). Göttingen 1889. *Bildung d. Nomina*

Leguest, M., Études sur la formation des racines sémitiques. Paris 1858.

Martin, Sir W., Inquiries concerning the Structure of the Semitic Languages. 2 parts. London 1876—1878.

Meier, Ernst, Die Bildung und Bedeutung des Plural in den semitischen und indogermanischen Sprachen. Mannheim 1846.

Nöldeke, Theodor, Die semitischen Sprachen, Leipzig 1887.

— Neue Beiträge zur semitischen Sprachwissenschaft. Straßburg 1910.

Renan, Ernest, Histoire générale et système comparé des langues sémitiques. 4e edition. Paris 1863.

Ručzička, R., Konsonantische Dissimilation in den

ABBREVIATION

semitischen Sprachen. (Beiträge zur Assyriologie vi Heft 4). Leipzig 1909.

WRIGHT, WILLIAM, Lectures on the Comparative Grammar of the Semitic Languages. Cambridge 1890. *Comp. Gram.*

ZIMMERN, H., Vergleichende Grammatik der semitischen Sprachen. Berlin 1898.

D. HEBREW

a) *Jewish Biliteralists and their Writings*

DONNOLO, SHABBETHAI BEN ABRAHAM ספר חכמוני
Il commento di S. Donnolo sul libro della creazione ... da David Castelli. Contains a cabbalistic exposition of the value of the letters in the roots and is the principal source for all such later investigations. Firenze 1880.

FÜRST, JULIUS אוצר לשון הקדש
Librorum sacrorum veteres testamenti concordantiae. Follows biliteral principles. Lipsiae 1840.

HERZFIELD, LÉVI, Einblick in das Sprachliche der semitischen Urzeit. Hannover 1883.

JUDAH ARYEH BEN ZEBI HIRSCH OF CARPENTRAS אהלי יהודה
An etymological dictionary on biliteral principles. Jeßnitz 1719.

LEVINSOHN, ISAAC BAER אהלי שם
Etymological studies on biliteral principles. Warsaw 1893.

— שרשי לבנון
Etymological studies on biliteral principles. Wilna 1841.

— תולדות שם
Etymological studies on biliteral principles. Warsaw 1877.

LEVISOHN, GEORGE תוכחת מגלה
A commentary on Ecclesiastes on biliteral principles. Hamburg 1784.

MARCUS, AHRON ברזלי
Sprache als Schrift der Psyche. Berlin 1905. Follows the older cabbalistic exposition of the value of letters in roots.

MENAḤEM BEN SHLOMO שכל טוב
Composed 1130. Pentateuch commentary on biliteral principles (see introduction to Levisohn's תוכחת מגלה).

ABBREVIATION

MENAḤEM BEN SARUḲ AND DUNASH BEN LABRAT מחברת מנחם ותשובות דונש
A Hebrew lexicon edited by H. Filipowski. London 1854.

PAPPENHEIM, SOLOMON חשק שלמה
First part of a biliteral dictionary containing the letters א and ב. Breslau 1802.

— יריעות שלמה
A book of Biblical synonyms in three parts on biliteral principles. Dhyrenfurth 1784—Roedelheim 1812.

STEINBERG, JOSHUA מערכי לשון עבר
A Hebrew grammar with an exposition of the biliteral theory. Wilna 1891.

— משפט האוֹרים
A dictionary on biliteral principles. 8th ed. Wilna 1903.

b) *Recent Grammars, Lexicons, etc.*

BACHER, W., Anfänge der hebräischen Grammatik (Zeitschrift der deutschen morgenländischen Gesellschaft xlix. pp. 1—62; 335—392).

BARTH, J., Wurzeluntersuchungen zum hebräischen und aramäischen Lexicon. Leipzig 1902.

BÖTTCHER, J., Ausführliches Lehrbuch der hebräischen Sprache. 2 Bde. Leipzig 1866. *Lehrbuch*

CRAWFORD, F. J., Horae Hebraicae. An elaboration of the prepositional theory. London 1868.

DELITZSCH, FRANZ, Iesurun, sive isagoge in grammaticam et lexicographiam linguae hebraicae. Grimmae 1838.

DELITZSCH, FRIEDRICH, The Hebrew Language viewed in the Light of Assyrian Research. London 1883.

— Prolegomena eines neuen hebräisch-aramäischen Wörterbuchs zum alten Testament. Leipzig 1886. *Prolegomena*

D'OLIVET, FABRE, La langue habraïque restituée. Exposition of Hebrew roots according to cabbalistic value of letters. Paris 1815.

EWALD, HEINRICH, Ausführliches Lehrbuch der hebräischen Sprache des alten Bundes. 8te Auflage. Göttingen 1870. *Lehrbuch*

FÜRST, JULIUS, Hebräisches und chaldäisches Hand-

ABBREVIATION

wörterbuch über das alte Testament. 2te Auflage. Leipzig 1863.

— A Hebrew and Chaldee Lexicon to the Old Testament. Translated by Samuel Davidson D.D. New York 1867.

Geiger, A., Lehrbuch zur Sprache der Mischnah. Breslau 1845. *Lehrbuch*

Gellot, Eugene, The Monosyllabism of the Semitic Languages. New York 1912.

Gerber, W. J., Die hebräischen Verba Denominativa. Leipzig 1896.

Gesenius, Wilhelm, Geschichte der hebräischen Sprache und Schrift. Leipzig 1815.

— Hebräische Grammatik. 11te Auflage. Halle 1834. *Hebr. Gram.*

Gesenius-Kautzsch, Hebräische Grammatik. 27te Auflage. Leipzig 1902.

Gesenius, Wilhelm, Thesaurus philologicus criticus linguae hebraeae et chaldaeae veteris testamenti. Editio altera. Lipsiae 1835.

Gesenius-Brown-Driver-Briggs, A Hebrew and English Lexicon of the Old Testament. Boston 1906. *Lexicon*

Gesenius-Zimmern-Buhl, Hebräisches und aramäisches Handwörterbuch über das alte Testament. 14te Auflage. Leipzig 1905. *HWB.*

Kohut Alexander, Aruch Completum. 8 parts. Vienna 1878—New York 1892.

König, Eduard, Historisch-kritisches Lehrgebäude der hebräischen Sprache. Leipzig Bd. i. 1881. Bd. ii. 1. 1895. Bd. ii. 2. 1897. *Lehrgeb.*

Levy, Jacob, Neuhebräisches und chaldäisches Wörterbuch. Leipzig 1876—1889. *NHbCWB.*

Metmann, Leo, Die hebräische Sprache. Jerusalem 1904.

Neumann, Caspar, Genesis linguae sanctae veteris testamenti. Eyposition of the cabalistic value of letters in roots (cf. Gesenius, Geschichte d. heb. Sprache, p. 126). Norimburg 1696.

Olshausen, Justus, Lehrbuch der hebräischen Sprache. Braunschweig 1861. *Lehrbuch*

Stade, B., Lehrbuch der hebräischen Grammatik. Leipzig 1879. *Lehrbuch*

ABBREVIATION

Strack und Siegfried, Lehrbuch der neuhebräischen Sprache und Literatur. Karlsruhe und Leipzig 1884. *Lehrbuch*

E. ARAMAIC, SYRIAC, AND DIALECTS

Brockelmann, Carl, Lexicon Syriacum. Edinburgh et Berlin 1895.

Dalman, Gustaf, Grammatik des jüdisch-palästinischen Aramäisch. Leipzig 1894.

Duval, Rubens, Traité de grammaire syriaque. Paris 1881. *Gram. Syr.*

Kautzsch, Emil, Grammatik des Biblisch-Aramäischen. Leipzig 1884.

Levias, Caspar, A Grammar of the Aramaic Idiom contained in the Babylonian Talmud. Cincinnati 1900. *Aram. Gram.*

Levy, Jacob, Chaldäisches Wörterbuch über die Targumim. Leipzig 1881. *CWB Targum.*

Maclean, A. J., A Dictionary of the Dialects of Vernacular Syriac. Oxford 1901.

— Grammar of the Dialects of Vernacular Syriac. Cambridge 1895. *Vern. Syr.*

Margolis, Max L., A Manual of the Aramaic Language of the Babylonian Talmud. München 1910. *Babyl. Talmud Gram.*

Merx, Adalbertus, Chrestomathia Targumica. Berlin 1888. *Chrest. Targ.*

— Grammatica Syriaca quam post opus Hoffmanni. Halle 1867. *Gram. Syr.*

Nöldeke, Theodor, Grammatik der neusyrischen Sprache. Leipzig 1868. *Neusyr. Gram.*

— Kurzgefaßte syrische Grammatik. Leipzig 1898. *Kurz. Syr. Gram.*

— Mandäische Grammatik. Halle 1875. *Mand. Gram.*

Payne-Smith, R., Thesaurus Syriacus. 2 vols. Oxonii 1879. *Thesaurus*

Petermann, J. H., Brevis linguae chaldaicae grammatica, litteratura, chrestomathia cum glossario. Editio secunda. Carolsruhe 1872. *Ling. Chald.*

F. ASSYRIAN

Delitzsch, Friedrich, Assyrian Grammar. Translated from the German by A. R. S. Kennedy. Berlin 1889.

— Assyrisches Handwörterbuch. Leipzig 1896.

ABBREVIATION

Muss-Arnolt, W., A Concise Dictionary of the Assyrian Language. 2 parts. Berlin 1905. *Dictionary*

G. ARABIC AND DIALECTS

Dozy, R., Supplément aux dictionnaires arabes. 2 tomes. Paris et Leyde 1881.

Fraenkel, Siegmund, Beiträge zur Erklärung der mehrlautigen Bildungen im Arabischen. Leiden 1878. *Mehrl. Bildungen*

Freytag, G. W., Lexicon arabico-latinum. 4 parts. Halis 1830—1837.

Lane, Edward W., An Arabic-English Lexicon. 8 parts. London 1863—1893. *Lexicon*

Schwarzlose, F. G., De linguae arabicae verborum pluriliteralium derivatione. Berlin 1854.

Spitta-Bey, Wilhelm, Grammatik des arabischen Vulgärdialectes von Aegypten. Leipzig 1880. *Gram.*

Stumme, Hans, Grammatik des tunisischen Arabisch nebst Glossar. Leipzig 1896. *Gram. d. Tunis*

Vollers, K., The Modern Egyptian Dialect of Arabic. Translated by F. C. Burkitt. Cambridge 1895.

Wright, W., A Grammar of the Arabic Language. Translated from the German of Caspari. 3d edition. 2 vols. Cambridge 1896—1898. *Arabic Gram.*

H. ETHIOPIC

Dillmann, August, Grammatik der äthiopischen Sprache. Zweite Auflage von Dr. Carl Bezold. Leipzig 1890. *Äthiop. Gram.*

— Lexicon linguae aethiopicae. Leipzig 1865. *Lexicon*

König, E., Neue Studien über Schrift, Aussprache und allgemeine Formenlehre des Äthiopischen. Leipzig 1877.

Stade, B., Über den Ursprung der mehrlautigen Thatwörter der Ge'ezsprache. Leipzig 1871. *Ursprung d. Ge'ez*

I. INDO-GERMANIC PHILOLOGY, ETC.

Bréal, Michel, Essai de sémantique (science des significations). Paris 1897.

Brugmann, C., Grundriß der vergleichenden Grammatik der indogermanischen Sprachen. 2. Auflage. Straßburg 1897 ff. *Grundriß*

ABBREVIATION

Brugmann, C., Kurze vergleichende Grammatik der indogermanischen Sprachen. Straßburg 1902 ff.

Curtius, G., Grundzüge der griechischen Etymologie. 5. Aufl. Leipzig 1879.

Hirt, Hermann, Der indogermanische Ablaut. Straßburg 1900.

Indogermanische Forschungen, herausgegeben von C. Brugmann, etc. Straßburg 1892 ff. *IF.*

Johansson, K. F., Beiträge zur griechischen Sprachkunde. Upsala 1891.

Lagarde, Paul Anton de, Reliquiae juris ecclesiastici antiquissimae, graece edidit. Leipzig 1856. *Reliquiae*

Möller, Hermann, Semitisch und Indogermanisch. Kopenhagen 1906.

— Vergleichendes indogermanisch-semitisches Wörterbuch. Göttingen 1911.

Persson, Per, Studien zur Lehre von der Wurzelerweiterung und Wurzelvariation. Upsala 1891.

Skeat, Walter W., An Etymological Dictionary of the English Language. Oxford 1882.

Walde, Alois, Lateinisches etymologisches Wörterbuch. Heidelberg 1910.

CHAPTER I

THE SUBCONSCIOUS BILITERAL ROOT

It was Jehûdâ ben David Ḥayyuǧ who, following the more scientific methods of Arab grammarians, first laid down the principle that Hebrew roots are invariably triliteral, and thereby developed Hebrew grammar beyond its previous empirical stage. While the predecessors[3] of Ḥayyuǧ were still in utter uncertainty as to the true nature of the Hebrew root, and held that it might be uniliteral, biliteral, triliteral, or even quinqueliteral, as occasion might require, it was reserved for him and for succeeding generations to establish law and order where confusion and doubt had reigned, and to bring all apparent irregularities in the Hebrew verb within the scope of the triliteral theory. The work of the succeeding schools, both in the Jewish and in the Christian world of Hebrew scholarship, was thus, for many centuries, purely analytic.

It was in the labors of Wilhelm Gesenius that theoretical Hebrew grammar first found a sound exposition. Among the varied results of his studies in Semitic philology the "root-theory," formulated by him, but more fully developed by his successors, holds a conspicuous place. This hypothesis found its widest acceptance and interpretation in the early seventies of the nineteenth century; but its firmest

[3] מַחְבֶּרֶת מְנַחֵם p. 39; see also Bacher, *Anfänge der hebräischen Grammatik*, p. 80 (*ZDMG.* xlix. 352).

adherents have seen its foundations shattered, and many have surrendered the ground that had been gained through decades of toil. It is true that the "root-theory" has been weighed in the balances, and found wanting, but this failure is not due so much to the unsoundness of the theory as to the faulty methods employed by its defenders. Efforts are constantly being made to throw more light on the difficult problem of the original character of the Semitic root, and the biliteral theory still claims many staunch advocates. Nöldeke has only recently taken up the question of the long-contested biliteral nouns and weak verb-stems (*Neue Beiträge zur semitischen Sprâchwissenschaft, Straßburg 1910, pp. 109-207*); but while it is true that such scholars as he and Eduard König[4] have not despaired because of former failures and still seek to solve the problem, other investigators such as Brockelmann and the younger Delitzsch[5] hold firmly to the triliteral theory and oppose as futile all attempts to support or to recast the biliteral hypothesis. Thus Brockelmann, in his recent *Grundriß der vergleichenden Grammatik der semitischen Sprachen, Berlin 1910, p. 285*, summarily dismisses the biliteral theory in the following words: "Schon im Ursemitischen wiesen die meisten Wortformen einen festen Grundstock von durchweg drei Konsonanten auf. Vielfach schlossen sich diese Wortformen wieder zu Gruppen zusammen, die bei verwandter Bedeutung zwei, meist die beiden ersten Konsonanten gemeinsam hatten. Man hat daraus schließen wollen, daß diese zwei Konsonanten einmal eine selbständige Existenz geführt, und daß aus ihnen erst die dreikonsonantigen Stämme sich entwickelt hätten. Dieser Schluß ist aber keineswegs zwingend. Es ist ebenso-

[4] *JE.* x. 468, and *Lehrgebäude* ii. (1). 370—374.

[5] Delitzsch, Unwerth und Gefährlichkeit der Wurzeltheorie, in his *Prolegomena*, 188—198.

gut denkbar, daß an dreikonsonantige Wurzeln durch analogische Neuschöpfung unter dem Einfluß von bereits bestehenden Wörtern verwandter Bedeutung neue Gruppen sich angeschlossen haben. Dieser Vorgang, der sich in einzelnen Fällen sehr wahrscheinlich machen läßt, kann in älteren Phasen schon in viel weiterem Umfang aufgetreten sein; auch auf indogermanischem Gebiet hat ja Bloomfield (*IF.* iv. 66) ähnliche Erscheinungen nachgewiesen."[6]

There is no doubt that the tendency to form triliteral roots was already strongly implanted in proto-Semitic, but Bloomfield's theory, which ascribes the origin of the so-called root-determinatives in Indo-Germanic to the process of congeneric assimilation, fails to satisfy the student of Semitics; nor has it, even within the sphere of Indo-Germanic, succeeded in entirely replacing the part played by the root-determinative. The principle of analogy, upon which the operations of this theory depend, has long been recognized in the science of linguistics, but to suppose that it has been the sole cause of those external and internal root-modifications by affixed elements which are so characteristic of the Semitic languages, is to lay upon this hypothesis a burden more heavy than it can bear. This theory may, indeed, be invoked in explaining the trend of specialization taken by certain determinatives in the course

[6] According to Bloomfield's theory **ers* and *ɣers*, 'to flow,' may have clashed in some such manner as this: there is a root **er*, 'to go,' and this was specialized to connote 'to flow,' having come under the influence of *ɣers* to such an extent that it adopted its congeneric character and became **ers*, aided by partial formal similarity; or conversely, a root **ers* may have affected a root *ɣer*, especially as words denoting 'water' begin with *ɣ* (*IF.* iv. 68). Fraenkel has shown how congeneric assimilation has its counterpart in Hebrew (cf. *BA.* iii. 61—62), and attributes to such adaptation all changes which others may seek to explain by the theory of root-determinatives.

of root-development, but the origin of the root-determinative itself demands a more tangible theory. Sufficient evidence has been found to justify a belief in the independent existence of a biliteral stem in the hypothetical proto-Semitic at a period shortly before the prehistoric separation of the various Semitic stocks.

Before this, however, a few words are necessary concerning the older "root-theory," its errors and shortcomings, and its relation to the present investigation. Böttcher,[7] August Müller,[8] and Stade,[9] in their endeavors to determine the true character of the primitive Semitic root, began by studying the existing form of the weak-verb and by deducing certain generalizations from it. This method is followed by many recent investigators,[10] and forms worn down in course of time, and in reality of a regressive character are still held to be the progenitors of all other existing forms. The present writer, on the contrary, has found himself obliged to surrender this theory, and he is convinced that by the time when the proto-Semites were divided into the stocks known in history, the verb-roots had already become wholly or partly triliteralized, while at least some roots had even then been made pluriliteral; and, at the same time, he is compelled to view with scant favor the theory of the survival of a biliteral, based upon the simplified weak stem. Philippi[11] was here perhaps the most accurate of former investigators. He applied the biliteral principle to the strong verb and weak verb indiscriminately,

[7] *Lehrbuch* ii, 476 ff.

[8] *ZDMG.* xxxiii. 698—700.

[9] *Lehrbuch* i. 109 ff.

[10] So Wolfenson, *JAOS.* xxvii. 303—316, and Ahrens *ZDMG.* lxiv. 161—194.

[11] Der Grundstamm des starken Verbums im Semitischen, in *Morgenl. Forschng.*, pp. 71—106.

and regarded the latter as the outcome of a further rather than of a retarded growth.

Gesenius,[12] Dietrich,[13] Fürst,[14] the elder Delitzsch,[15] and, in fact, all the older theorists, confused two distinct phenomena in the early history of Semitic speech, so that they usually regarded as an identical development both root-differentiation and the modification of roots by determinatives. The grammar of Gesenius-Kautzsch has led many others into this error with its conclusion (§ 30) that, "Weitere Modifikationen derselben Wurzel erfolgen endlich dadurch, daß sowohl die Wurzelkonsonanten, als der Zusatzbuchstabe nach den Gesetzen des Lautwechsels in einen verwandten Laut übergehen."

It must be emphasized, from the very first, that the root-determinative (with which alone this investigation is concerned) is a constant; and that any apparent variation from the principle is due to the affixing of other distinct determinative elements, which may or may not be related to the first determinative. This confusion of regarding two distinct and separate processes as one and the same has caused Lambert[16] to postulate a vocalic origin for all determinatives; and, reasoning in like manner, Duval,[17] with strict adherence to the triliteral principle, has made all Semitic roots pass through a graded series of changes, both in form and in meaning, before they assumed their present character.

[12] *Hebr. Gram.* (11th edition), p. 65, and the discussion of the roots קץ, כם, נז, חת, etc.

[13] *Abhandlungen*, p. 97 and the roots דל, זל, סל, טל, etc.

[14] *Handwörterbuch*, under the radical מא, associated with מא, זע, זא, שא, רא, דה, etc.

[15] *Jesurun*, p. 142, and the comparison between פא, פה, and פע.

[16] De la formation des racines trilitères fortes in *Sem. Studies*, p. 358.

[17] *Gram. Syr.*, pp. 32—36.

The older theorists had, moreover, no idea of the science of semasiology and would very ingeniously connect, as Friedrich Delitzsch justly shows,[18] any one root with any other at pleasure. As a matter of fact, however, the investigator in this field must be rigidly governed by the meanings and uses of words as recorded by the latest and best lexicons.

Finally, the older school always sought for analogies in Indo-Germanic, and if they could correlate their results in Semitic with similar phenomena in the other field, they felt doubly confident. The consequences of such analogies were that Julius Fürst and Franz Delitzsch[19] built up a Semito-Indo-Germanic prepositional theory; while Philippi[20] formulated a theory, based on Indo-Germanic, that the base of the strong verb **katab* was almost invariably developed from a primitive **kat* plus a post-determinative; and Ernst Meier[20a] propounded a reduplication theory based on Indo-Germanic. Unlike Indo-Germanic, however, where practically only post-determinatives are employed, the number of pre-determinatives, in-determinatives, and post-determinatives is almost equal in Semitic; and these three classes of Semitic determinatives consist, it should be noted, of almost the same group of consonants. To avoid all risk of superficial analogy and the consequent danger of a

[18] *Prolegomena*, p. 189: "Man braucht ja nur die Grundbedeutung einer Wurzel recht zu verallgemeinern und zu verflößen und jede Wortbedeutung wird aus ihr hergeleitet werden können."

[19] They identify pre-determinative ש with Sanskrit *sam*, 'together with,' ב with Sanskrit *abhi*, 'to,' etc. (*Jesurun* p. 143). See the criticism by Renan, *Hist. d. lang. Sem.*, p. 448 ff. Cf. also Fürst, *Concordantia*, preface p. 8.

[20] *Morgenl. Forsch'ng.*, p. 84. It is interesting to note that early Arab grammarians had a similar notion about the Semitic root; cf. Baidhawi in his comment to Sura ii. 4, pp. 18—19.

[20a] Cf. *Die Bildung und Bedeutung des Plural*, p. iv ff.

false impression of actual kinship between Semitic and Indo-Germanic—a kinship which, though often postulated and theoretically possible, is yet entirely unproven[21]—it seems best to disregard Indo-Germanic phenomena in the main body of the discussion of the Semitic root-determinative; although analogical Indo-Germanic developments may be cited by way of illustration after the theses of the present study shall have been established from the point of view of Semitic philology.

i

The Triliterality of the Weak Verb—Cause and Origin of the Weak Stem. Early theorists, as has already been noted, for the most part began their investigation of the character of the biliteral root from a consideration of the weak verb and, as a result, they invariably reached the misleading conclusion that the weak verbs in question were surviving specimens of older biliterals. Ewald[22] was of the opinion that the weak consonant in verbs ע"ו was vocalic in origin; and that the form **qûm* was probably the type from which these verbs were derived. Böttcher,[23] following a similar line of thought, formulated a series of able arguments by which he sought to prove that forms like סַב and מַת antedate forms like סָבַב and מָוַת, and that they are extant remains of biliteral stems. The arguments of Böttcher have, however, of late been refuted by Lambert,[24] who has clearly shown that Böttcher confuses the concept of a primitive biliteral with an historic biliteral, which was the

[21] Cf. Hirt, *Indogermanen*, pp. 83—84; and see Möller, *Semitisch und Indogermanisch*, Kopenhagen, 1906: *Vergleichendes indogermanisch-semitisches Wörterbuch*, Göttingen 1911.

[22] *Lehrbuch*, pp. 293—295.

[23] *Lehrbuch*, ii. 476—478, 492 ff.

[24] *La trilitéralité des racines*, *REJ.* xxxv. 203—212.

product of linguistic decay: *sab* has arisen from **sababa*, as *qâm* from **qawama*. Stade[25] and almost simultaneously August Müller contend that the strong analogy exerted by the pure triliteral has forced the weak verb into its present irregularities. The latter scholar says in part:[26] "Ursprüngliche zweiradikalige Wurzeln sind im Semitischen bei dem Durchdringen der Analogie der dreiradikaligen, den letzteren dadurch gleichwertig geworden, daß entweder der Vokal oder das zweite (gelegentlich auch das erste) konsonantische Element in der Aussprache verstärkt wurde: *qăm—qâm* oder *sab—sabb; yăqŭm—yaqûm* oder *yasub—yasubb, yissub*." Both Nöldeke[27] and Wellhausen[28] later adopted this theory, and Gesenius-Kautzsch[29] have accorded it a certain sanction. It must, however, be remembered that Wright,[30] Philippi,[31] König,[32] and Brockelmann[33] refuse to accept this view, and insist, in conformity with the labors of Arab and later Hebrew grammarians, that any deviation of the weak verb from a triliteral character is due to the attrition of speech-forms which constitutes a well-known linguistic phenomenon. Brockelmann[34] has summarized the principal arguments against this most recent school of biliteralists, and clearly shows that the media *y* class in Hebrew was independent of the media *w*, and was not, as Ewald thought, an abbreviation from a hif'îl form of media *w*; that forms like **mawt*, **qawm*, and **bayn* are older than the forms **qum*

[25] *Lehrbuch*, pp. 109—110, 230—231.
[26] *ZDMG.* xxxiii. 700.
[27] *ZDMG.*, xlvi. 776, and *Kurz. Syr. Gram.*, p. X.
[28] *Skizzen und Vorarbeiten* vi. 250.
[29] *Hebr. Gram.*, p. 175.
[30] *Comp. Gram.*, p. 243.
[31] *Morgenl. Forsch'ng.*, pp. 71—106.
[32] *Lehrgeb.*, ii. (1) 373.
[33] *Grundriß*, i. 605 ff.
[34] *op. cit.*, pp. 606—607.

and **bin*, which are derived through ablaut and secondary contraction; that the hypothesis of Stade and Müller misunderstood the character of the *w* and *y* sounds, which are not, as Stade maintained,[35] labial and palatal spirants, but are consonantal vowels; and, finally, that the arguments, adduced by Stade, that true ע״ו and ע״י verbs exist only in such forms as *râwaḥ* and *'âyabtî*, were practically annihilated by Nöldeke, who has shown that all these verbs are secondary denominatives.

The very latest attempt to regain the vantage point of the last biliteral school and, at the same time, to extend its conclusions to the whole category of irregular verbs, is represented by Ahrens, in his study "Der Stamm der schwachen Verba in den semitischen Sprachen" (*ZDMG.* lxiv. 161—194). So novel are some of his arguments and so misleading are some of his deductions, that a detailed consideration of his theory becomes advisable, as well as an attempt to discover the main source of its error. He proposes, at the outset, to find in the weak verb the solution of the problem of the biliteral root in Semitic speech, and he proceeds to sum up clearly the well-known facts of the close affinity of all the existing classes of weak verbs, פ״א, פ״ו, פ״נ, ע״ו, ע״ע, ל״א, or ל״ו. He shows that the Hebrew of the Old Testament often has a double conjugation for the same verb, with the same meaning, and in the very same passage, among such cases being, מוש and משש, 'to feel', in Gen. xxvii. 21—22; צור and צרר in וְצָרוֹתִי אֶת־צֹרְרֶיךָ, 'I will be an adversary unto thine adversaries' (Exod. xxiii. 22); יקע and נקע, 'to be removed,' in Ezek. xxiii. 18; a metaplastic שׁוּב תֵּשְׁבוּ, 'you abide,' in Jer. xlii. 10; and דוש and אדש in אָדוֹשׁ יְדוֹשֶׁנּוּ, 'he will be threshing it' (Isa. xxviii. 28).

[35] *op. cit.*, p. 65.

One class of verbs is actually confused with another in many of its forms. Thus, several hof'als of פ"נ and פ"ו are identical in Hebrew; the Syriac 'af'el of פ"א is analogous to פ"ו, so that יָבַשׁ 'to be lost' becomes יְאַבֵּשׁ, and the Biblical Aramaic has הוּבְדָה (Dan. vii. 26); נוּחַ 'to rest' forms two hif'îls, הֵנִיחַ and הֵנִיחַ, as if from two conjugations, etc. Ahrens very correctly draws the conclusion that, underlying all these interrelated forms, there must be a common biliteral. Besides this permissible inference, however, he seeks to find traces of an original biliteral stem which he holds to be still extant, and this biliteral, he believes, constitutes the base of all the reduplicated (pilpel) forms. Yet the fact that all these forms are related to one or another class of weak-verbs, should cause us some hesitation in accepting this explanation as final, especially since the loss of the weak letter in these reduplicated forms is of the same nature as its loss in certain forms of the weak verb. It is true that many of these pilpel forms, as Arabic *hudhud*, 'hoopoe,' Assyrian *laqlaqu*, 'stork,' *ṣarṣaru*, 'grass-hopper,' and Hebrew *baqbuq*, 'flask', are purely onomatopoeic in origin, yet this is no certain criterion of their antiquity. Such formations, based on older analogies, may have been made at all periods. Of all Arabic dialects, the Egyptian is especially rich in such forms and many of its reduplications are certainly of relatively modern date[36]. Popular language is fond of such formations as is shown by the dialect of the Babylonian Talmud[37] and by Modern Syriac;

[36] Spitta-Bey, *Gram.*, p. 190.

[37] New pilpel formations in the Babylonian Talmud include בַּזְבֵּז, 'to expend,' בַּלְבֵּל, 'to confuse,' בַּצְבֵּץ, 'to sprout forth,' דַּמְדֵּם, 'to glow (of the twillight), be semi-conscious' (cf. אָדַם, 'to be red,' דָּמַם, 'to be silent'), דַּקְדֵּק, 'to divide into small parts, go into details,' הַרְהֵר, 'to reflect upon,' חַרְחֵר, 'to kindle, burn,' מַשְׁמֵשׁ, 'to bespatter,' לַגְלֵג, 'to mock,' etc.

and it must also be borne in mind that the vocabularies of the various dialects always include weak verbs which keep alive in the Semitic mind the specific meaning that the reduplicated forms are intended to convey. All that can be conceded safely in this argument is, that the Semite invariably rejects, whether consciously or subconsciously, the weak element as subordinate, when such reduplications are formed.

Ahrens then applies his results to an analysis of the weak verb, and finds that the monosyllabic forms are primitive, while the dissyllabic forms are of later formation. He feels himself obliged to draw this conclusion because of the inability of historic grammar to account for the total disappearance of *waw* or *yodh* in the perfect of the hollow verb; because of its failure to explain the aphaeresis of *waw*, *yodh*, *nûn*, and *'alef* in the various imperatives of the defective verb; and especially because of the meaningless confusion of stems that is so characteristic of the weak verb in general, and that has been hitherto entirely ascribed to analogy. This, perhaps, is the crucial point of the whole problem, and if sufficient reason can be found for the changes in question, the long-mooted problem will be finally solved. Ahrens raises the further question of the primitive noun, and rather daringly premises that ל״ה verbs, such as צִוָּה, 'to command' and קִוָּה, 'to wait for,' are denominatives from biliteral nouns, such as צַו and קִו. It is true that יָדָה, 'to throw,' looks very much like a denominative from יָד[38], 'hand'; yet it might be alleged with equal plausibility that חָיָה, 'to live,' is a denominative from חַי, 'living,' עָוָה, 'to bend,' from עִי, 'heap,' or צָיָה, 'to be parched,' from צִי,

[38] Another example often quoted is הָרָה, 'to be pregnant,' associated by some with הַר, 'hill' (cf. Levy, *NHbCWB*).

'beast of the desert.' Either the whole class of ל״ה verbs is denominative in character, or none at all. Finally, Ahrens reaches the conclusion that the narrative tense (the consecutive imperfect in Hebrew) and the jussive are the oldest existing forms of the verb, to which may be added the imperative; whereas the perfect stem is a later formation. These three are monosyllabic in character in the Hebrew weak verb. This conclusion is, however, open to question. In the regular verb, as well as in the weak verb, the jussive displays at least vocalic shortening[39]; and the imperative and the jussive, as being forms most frequently used in the living language, might be expected to suffer aphaeresis sooner than forms of less frequent occurrence. Moreover, the shortening of the consecutive imperfect in Hebrew seems to receive an adequate explanation in the theory of Brockelmann,[40] that the consecutive imperfect has been developed from the pure imperfect through a shift of accent, which still rests on the prefix in an open syllable, as in וַיַּחַר, וַיִּפֶן, etc. On the whole, Ahrens has admirably summarized all the arguments in favor of the hypothesis of Stade and Müller, and has given these arguments their widest interpretation; but while it must be confessed that the explanation of the irregularities of the weak verb is still beset with certain difficulties, it is equally clear that the theory of a surviving biliteral is inadequate to interpret the phenomena presented by the weak verbs in question.

To understand the development of the weak verb in its true light, and to grasp the real nature of all the changes

[39] Cf. Wright, *Comp. Gram.*, p. 191. The jussive has ordinarily no characteristic vowel, and uses the shorter terminations. Ungnad (*BA.* VI. iii. 57—58) believes that the imperative and jussive originate from the second or intransitive form of the verb (*qaṭil*).

[40] *Grundriß*, i. 557.

and deviations which it has undergone during its existence, a more consistent solution is necessary, and one which will not only be linguistically sound, but which will also explain each successive step in the evolution of the weak verb. Briefly to summarize the situation, it can scarcely be denied that a comparison of such kindred forms as דָּכָא, דַּכַּךְ, דוּךְ and דָּכָה, 'to beat down, trample,' הָמַם, הָמָה, and הוּם, 'to be turbulent, roar,' דָּמַם, דָּמָה, and דוּם, 'to be silent,' and חָמַם, חָמָה, and יָחַם, 'to be hot,' legitimately leads to the postulation of a common biliteral base for these various interrelated forms. We may then hold, with König[41], that this biliteral base, as the fundamental root, is a theoretical abstraction which never actually existed in the living language; or we may prefer the other alternative, maintaining that the biliteral root once had an independent existence, and that it developed into its present state by the affixation of formative increments or determinatives. In either case, the weak element in the forms under discussion is certainly the determinative, as is obvious from the fact that certain verbs in one dialect may belong to one class of weak stems, while closely kindred weak verbs in another dialect may belong to another class having only a slight difference of meaning. Thus רָבַב, 'to be many,' in Hebrew is ܪܒܐ in Syriac; נָתַן, 'to give,' in Hebrew is יתן in Phoenician; מוּב and יָטַב, 'to be good,' in Hebrew coincide as ܛܒ in Aramaic and Syriac. Nöldeke has given a very full list of such related forms from all Semitic idioms[42]. Some of these are post-Biblical נָסַר, 'to saw,' Syriac ܢܣܪ, but Ethiopic ወሰረ፡, and Arabic أَشَرَ, idem; Hebrew נָקַר, נָקַר 'to hew out, pierce,' Syriac ܢܩܪ, 'to dig,' but Arabic وَقَرَ, 'rent,'

[41] *Lehrgeb.* ii. 370, and *JE.* x. 469.
[42] *Neue Beiträge*, pp. 179—206.

and Ethiopic ፋቀረ or ወፈረ, 'to pierce, dig'; Hebrew יָחֵף, 'barefoot,' Syriac ܢܚܦ, 'to go barefoot,' but Arabic حَفِيَ, idem; Hebrew נָקַב, 'to bore a hole,' also יָקֵב, 'cellar,' but Arabic وَقَبَ, 'to intrude'; Syriac ܨܒܩ, 'to adhere to,' and Arabic وَقَفَ, 'to stand firm,' etc.

Even in the same dialect one stem of a verb sometimes follows the analogy of one conjugation, and another stem of the same verb that of another conjugation. Thus, the Hebrew הָלַךְ, 'to go,' conjugates the imperfect as יֵלֵךְ and, in like manner, נָצַב, 'to stand,' is found in the hitpa'êl as הִתְיַצֵּב, 'to station oneself,' (Aramaic יַצִּיב, 'firm, right'); Syriac primae ו verbs pass into primae ܝ in the 'af'el and 'ettaf'al (and in the šaf'el of ܬܢܐ, 'to delay,' which becomes ܫܝܬܢܐ); in Syriac the verbs ܝܕܥ, 'to know,' and ܝܬܒ, 'to sit,' are identical with פ״נ in the imperfect, as is יָדַע, 'to know,' in Aramaic; the Syriac verb ܬܠܡ, 'to learn,' becomes ܡܝܠܡ in the pa'el participle; the Hebrew נוּחַ, 'to rest,' forms two hif'îls on the analogy of ע״ו and פ״נ. In the dialect of Tunis[43], Stumme has shown that ḫdä, 'to take,' has four root variants, while klä, 'to eat,' has five: اكل, وكل, مكل, كول, and كلى[44].

All these changes have thus far been attributed solely to the action of analogy upon the various weak forms, yet it is doubtful whether analogy alone has caused so hopeless a confusion of forms. The different classes of weak verbs are not merely related formally, through the possession of a common weak element, but are also related semasiologically, since this common weak element gives an identical connotation to their biliteral base. It may, indeed, be

[43] *WZKM.* viii. 262, and *Gram. d. Tunis.*, p. 21.

[44] For a complete list of such cases of root-confusion, see Huizinga, *Analogy in the Semitic Languages*, pp. 15—20.

argued that this weak element (or determinative) gives no connotation whatsoever to the biliteral base but that it is a mere meaningless accretion, yet the first position is far more logical and is confirmed by a close study of the semasiological value of each determinative. It would accordingly appear that the various weak elements at first had somewhat different functions as determinatives of the biliteral base, and that they gradually acquired, in course of time, and through the constant interaction of Semitic words upon each other, the closest identity of meaning, while, on the other hand, their individual primary connotations vanished at an early period from the consciousness of the Semites.

If this theory is correct, all weak forms which eventually coincide after having started from different points can be explained only by assuming an identity of meaning in their determinative elements, at least in later usage. Thus the pol'êl forms in Hebrew in the two conjugations ע"ו and ע"י, and the identical hof'als in פ"י, ע"ו, and ע"י, cannot be merely the result of their analogous possession of weak elements[44a], but must also be due to the subconsciousness of the identity of meaning conveyed by the prefixed *y*, the infixed *w*, or the gemination of the final letter. In other words, we must at once assume that *the biliteral root still made itself felt in the consciousness of the people, at least in the weak verb.* König[45] has suggested such a possible solution of the question: „Hängt mit dem secundären Ursprung des einen von den drei Stammconsonanten nicht auch dies zusammen, daß die schwachen Verba in ihrer Flexion im Verlauf der Sprachentwickelung vielfach in einander übergingen?"

[44a] Cf. Stade, *Lehrbuch*, p. 122.
[45] *Lehrgeb.* ii. 370.

At first this seems a very radical conclusion but, when the peculiar phenomena displayed by the weak verb are borne in mind, such a theory is alone seen to be able adequately to account for every irregularity. This hypothesis is, moreover, apparently confirmed by evidence from many sides. The disappearance of a *nûn* in the imperative of נָגַשׁ, 'to approach,' of a *lamed* in לָקַח, 'to take,' or סָלַק, 'to go up,' of an *'elif* in the Arabic أَخَذَ, 'to take,' أَكَلَ, 'to eat,' and أَمَرَ, 'to command,' is not due merely to the strong analogy exerted by the imperfect of the verb, as Barth and Philippi maintain[46], but is still more indebted to the subconscious recognition of the secondary character of the weak element, or determinative. The tendency to form triliteral bases, strong though it was, could not yet completely dominate the consciousness of the people who spoke the living language, but the weak elements were mercilessly dropped, not because they were weak, but because they were subordinate. It is true that the stronger consonants were better fitted to survive, yet some even of their number were still subconsciously felt to be subordinate in character; and it is equally true that each Semitic dialect asserted its individuality in syncopating or in retaining these elements. The strong tendency to assimilate and to syncopate the various consonants in the verbs פ״א, פ״ו, פ״נ, ע״ו, ע״ע, and ל״ו has its origin mainly in such subconscious identification of the underlying biliteral element; and phonetic law alone will find it difficult to account for all these involved changes. The consonants *n*, *l*, and *h* are not necessarily weak; but when a subconscious force, recognizing that the determinative stands in a secondary relation to the biliteral root, is once posited, the tendency in the weak verb will be

[46] *BA.* ii. 365, and *ZDMG.* xliv. 692.

exerted in the direction of reversion to the original biliteral element. The conclusion which we thus reach is, therefore, the reverse of the view expressed by the biliteral school: סַב *and* מָת *are later than *sababa and *mawt,*[47] *and their biliteral character is, biologically speaking, a reversion to type.*

A number of other considerations lead to the same conclusion. Ethiopic has most faithfully preserved the original triliteral type of the weak verb[48]. When it is remembered that the Ethiopic was separated from the Arabic branch of the Semitic family at a very early period, it is not strange that it displays the older forms ሰበ፡ and ቀደ፡, whereas the Arabic has already suffered contraction (سَبَّ and قَامَ). An isolated group, surrounded on all sides by languages of an entirely different structure, is more liable to retain an older family characteristic than is a language which has kindred dialects on every hand, and which is constantly exposed to the encroachments of cognate idioms. Friedrich Delitzsch[49] has shown similarly that certain peculiarities common to Assyrian and Ethiopic can be explained only as common survivals from proto-Semitic, and Haupt expresses a similar view with regard to the priority of the Assyrian present and Ethiopic imperfect.[50] There is no doubt that the marked tendency of Ge'ez for new root-formations, as Stade[51] has shown, is likewise a survival

[47] Similarly Scerbo in the *Giornale della Società Asiatica Italiana*, xxii. 299.

[48] Dillmann, being a firm adherent of Ewald's views, and not finding in Ethiopic a biliteral form the rule but rather the exception, assumes that this dialect has gone further in its development, and that it has given the original vocalic element a consonantal character (*Äthiop. Gram.*, pp. 113—115).

[49] *Hebrew Language*, p. 18.

[50] *JRAS.* (New Series) x. 246.

[51] *Ursprung d. Ge'ez*, p. 3.

from the older period. Again, since the longer forms of the weak verb occur most frequently in poetry (cf. חָסָיוּ, נָגָלִיתִּי), they are clearly to be regarded as archaisms[52]. The consonantal character of the *w* and *y* is, moreover, shown by the fact that all the other root-determinatives are consonantal in character. Finally, the method of the later formations of reduplicated verbs from earlier triliteral stems conclusively proves that a subconsciousness of the original biliteral root still survived within historic times. This is especially the case in the modern Arabic and Syriac. Thus, in the dialect of Egypt[53], زهزه, 'to be bright, sparkle,' is connected with زَهَا and زَهَرَ, 'to shine'; قَفْقَفَ, 'to shudder with cold,' is formed from قفّ, 'shiver'; and وَلْوَلَ, 'to mourn, groan,' from وَيْلَ وَيْلَ, 'woe! woe!'[54] etc. In modern Syriac[55] ܫܚܫܡ, 'to be feverish,' is formed from ܫܚ, 'to be hot'; ܬܡܟ, 'to smoke,' from ܬܘܟܐ, 'smoke'; ܕܡܡ, 'to be bloody,' from ܕܡܐ, 'blood'; ܪܡܡ, 'to tread down', (cf. ܪܘܫ, 'to tread'); and ܥܢܢ, 'to push' (cf. ܥܝܪ, 'to squeeze'). From ל"א verbs may be cited ܫܒܥ, 'to be gratified,' from ܫܦܐ, 'to be pleasant'; and ܠܚܠܟ, 'to lick up,' from ܠܟܐ, 'to lick'. Sometimes even ל"ה verbs lose their weak letter ה, as ܩܨܨ, 'to cut up,' from ܩܨܐ, 'to cut'; and ܕܚܚ, 'to push, beat' (cf. תָּקַע, 'to thrust'). In all cases, the biliteral has been faithfully preserved, while the determinative has suffered attrition, the result being what we have ventured to call reversion to type.

The problem of the biliteral noun is in place here, and the solution seems to be similar to that of the biliteral

[52] König, *Lehrgeb.* i. 524—525.

[53] Spitta-Bey, *op. cit.*, p. 190.

[54] The etymology of the particle being forgotten, the *y* was treated as if it were the weak element of a hollow verb.

[55] Nöldeke, *Neusyr. Gram.*, pp. 189—190.

verb. Philippi[56] had already attempted to prove that such apparent biliterals were in reality triliterals and Barth[57] later confirmed his results in greater detail. König[58] expresses similar opinions, although Nöldeke[59] has collected a large number of forms, drawn from all the dialects, to support the possibility of the survival of the biliteral noun. The problem need not, however, be discussed here, since its solution is largely dependent upon the explanation of the biliteral character of the weak verb.

ii

Denominative Triliteral Stems. Not only does a study of the life and development of the weak verb give evidence of the subconscious existence of the biliteral element, but a study of the life and development of the secondary denominative still further strengthens the theory here maintained. It accordingly becomes necessary to make a study of the secondary triliteral stems in Semitic, as well as an attempt to elucidate the way by which these secondary triliteral denominatives have been derived from older triliterals, and the means whereby these secondary formations still seek to retain a triliteral character. It will thus become possible to ascertain both readily and accurately what elements in each root were still felt, whether consciously or subconsciously, to be primary, and what were regarded as secondary; what formative elements became radical in the process of development, and what others still retained their formative character. In this manner, we may gain a clear and well-defined view of the formation of new triliterals

[56] *ZDMG.* xxxii. 73 ff.
[57] *ib.* xli. 603 ff.
[58] *Lehrgeb.* ii. 372.
[59] *Neue Beiträge*, pp. 109—178.

within the historic period, and one which will aid materially in casting light upon prehistoric methods of development.

In Biblical Hebrew is found the very curious form וַיְהַתֵּל 'mocked,' (I Kings xviii. 27). Although its secondary character may still be called into doubt by many, who attribute the peculiar vocalization to Aramaic influence[60] and view the dâgeš as complementary,[61] yet it is more correct to assume, as does Ewald,[62] that הָתַל was no longer, in the consciousness of later generations, a hif'îl from *תלל—a stem dead, to all appearance, in the other conjugations—but rather that it had gradually assumed an independent character, as the Masoretic pointing, in its various stages, indicates. Thus תְּהַתֵּלוּ occurs with the dâgeš retained in Job xiii. 9; but Jer. ix. 4 reads יְהָתֵלוּ (pause); in הַתַּלְתָּ, in Judg. xvi. 10, there is no trace of the dâgeš; and the derivative substantive הַתֻּלִים, in Job xvii. 2, completes the chain of development.[63] Similar in origin is the ἅπαξ λεγόμενον הָבַר in the expression הֹבְרֵי שָׁמַיִם in Isaiah xlvii. 13 where the Ketîb reads הָבְרוּ. This הָבַר is generally connected with the rare Arabic root حَبَرَ, "to cut in large pieces," and hence the passage is rendered 'the dividers of the heavens.'[64] The root is best explained, however, as a denominative from a hif'îl of בָּרַר 'to separate, sift, purify,' which is found in the infinitive form לְהָבַר, 'to sift' (a synonym of לְזָרוֹת, 'to winnow') in Jer. iv. 11. The expression

[60] Gesenius-Kautzsch, *Hebr. Gram.*, p. 181.

[61] König, *Lehrgeb.* i. 352.

[62] *Lehrbuch*, p. 337.

[63] Cf. also Stade, *Lehrbuch*, p. 112.

[64] So Gesenius-Zimmern-Buhl *HWB.*, p. 155, and Franz Delitzsch, *Commentary on the Prophecies of Isaiah* ii. 225.

taken from such a figurative use of the word הָבַר[65] would thus mean 'those who sift the heavens,' an appropriate metaphor for an astrologer; and the form would thus be connected with a recognized Hebrew root, instead of being an independent offshoot from a dubious source. Hitzig[66] is right in the main when he attempts to read הַבְרוּ, 'to sift,' although the change in the traditional text[67] is unnecessary. A similar ἅπαξ λεγόμενον is הָדַךְ, 'to tread down,' Job xl. 12, which is generally compared with a vulgar Arabic هَدَكَ, 'to tear down,' while Budde reads הָדַךְ, from דָּכַךְ,[68] although this again is unnecessary. Here also a secondary denominative hifʿîl stem may be postulated, either as actually alive in the earlier period, or as alive to the consciousness of later tradition. Contrary to the opinion of Barth,[69], תָּכַן, 'to fix, establish,' is a pure type of denominative from תְּכוּנָה, 'equipment, establishment,' and its formation, as will be shown below (p. 22), is very frequent in the later language. It is very probable that נָקַע, 'to be alienated,' is a nifʿal denominative from יָקַע (Ezekiel xxiii. 22, 28), which occurs in the form וַתִּקַּע in Ezekiel xxiii. 18. Nöldeke comments on this verb as follows[70]: "Es ist unwahrscheinlich, daß die Sprache selbst das perf.

[65] The Talmudic חֻבָּרָה, "syllable" is a contracted form of הַעֲבָרָה, 'enunciation,' as Levy (*NH'bCWB* i. 449) correctly maintains, and despite Franz Delitzsch (*op. cit. ad loc.*) is not from this root.

[66] *Das Buch Daniel*, p. 29.

[67] Among some of the very curious emendations of הִבְרִי, that of Dillmann, *Der Prophet Jesaia*, p. 422, is interesting. He reads חִבְרִי, which he connects with the Arabic خَبَرَ, 'to know.'

[68] Gesenius-Zimmern-Buhl *HWB.* ad loc.

[69] *Wurzeluntersuchungen*, p. 52, but Stade, *Lehrbuch*, p. 113 and Lambert, *Sem. Studies*, p. 358, hold the view which is favored by the present writer.

[70] *Neue Beiträge*, p. 198.

von פ"נ, das imperf. von פ"ו gebildet hätte," and he thinks that both verbs are independent formations. Similar nif'al denominatives in the making occur in forms such as נָזְלוּ, 'to melt,' Judg. v. 5, which is best derived from זָלַל with a loss of the compensative dâgeš[71] through the influence exerted by פ"נ verbs, and which would thus stand for the usual נָזֹלוּ. In like manner, וְנָבְקָה (Isaiah xix. 3) is formed from נָבַקָה, and means 'to become empty,' and נָפְצָה, 'to be overspread,' Gen. ix. 19, is from פָּצַץ, 'to break up.'[72] The loss of the dâgeš in these and many similar forms can be explained only by assuming both a strong inherent tendency to simplify weak stems, and the counter-influence of the פ"נ verbs.

In Neo-Hebrew, the language of the Mishna and Midrashic literature, similar phenomena occur with great frequency.[73] An interesting development is presented by the new denominatives with preformative ת, these including תָּרַם, 'to

[71] Cf. König, *Lehrgeb.*, i. 343; Ewald, *op. cit.*, p. 511.

[72] Cf. König, *loc. cit.*; Gesenius-Kautzsch, *Hebr. Gram.*, p. 182; Ewald, *loc. cit.*; Olshausen, *Lehrbuch*, p. 592; Böttcher, *Lehrbuch*, ii. 488; and Stade, *Lehrbuch*, p. 241. Further examples are נָסְבָה (Ezek. xli, 7) and וְנִמְלְתֶם (Gen. xvii. 11).

[73] This phenomenon is of considerable importance in determining the much disputed connection between Neo-Hebrew and the Biblical dialect. When it is borne in mind that new denominatives of the type under consideration are found everywhere in the later popular Semitic dialects, that the controversy in question depends partly upon this very denominative type, and that the formations are in all cases analogous, the only possible inference appears to be that Neo-Hebrew was the result of a long process of development from the Biblical language (cf. Segal, *JQR.* xx. 647 ff.). It would, therefore, seem that the dialect of the Mishna constituted a vernacular, as was argued by Graetz (*Literaturblatt des Orients*, 1844, p. 824; cf. Luzzatto, *ibid.*, 1846, p. 830 ff.), and that it was not merely a scholastic and artificial language, as has been maintained by Geiger (*Lehrbuch zur Sprache der Mischnah*, p. 2) and Strack and Siegfried (*Lehrbuch der neuhebräischen Sprache*, p. 4 ff.).

offer up a heave-offering' (תְּרוּמָה), הִתְרִיעַ, 'to blow a broken blast' (תְּרוּעָה), הִתְחִיל, 'to make a beginning' (תְּחִילָה), and הִתְלִיעַ, 'to become wormy' (תּוֹלָע).[74] In like manner, with preformative מ, מָזַר, 'to be spoiled, blemished,' may be a denominative from Old Hebrew מָזוֹר 'wound,'[75] while מָהַם, 'to be turbulent,' is formed from מְהוּמָה, 'turmoil.' Similar quadriliterals are תִּרְגֵּם, 'to interpret, translate,' probably from *רגם (cf. Arabic رَجَمَ, 'to conjecture'), and הִתְמַסְכֵּן, 'to become poor' from מִסְכֵּן, 'pauper,' but these will more appropriately be considered in the discussion of quadriliterals. Denominatives from feminine nouns are אֵמֵת, 'to verify,' from אֱמֶת, 'truth' (*אמן), and סִלֵּת, 'to sift flour,' from סֹלֶת, 'fine flour'[76] (*סלל).[77]

In Aramaic are found תַּגַּר, 'to carry on trade,' a so-called taf'êl from אָגַר, 'wages, pay';[78] תָּדִיר, 'continuous,' from דוּר, 'to turn';[79] תְּנַח, 'to sigh,' a secondary denominative from אֲנַח (Ḥullin 57, a); and שַׁתַּר, 'to leave over,' has suffered attrition from שִׁזְתַּר, the šaf'êl of *ותר, 'to

[74] Root *ילע (Levy. *NHbCWB*, iv. 632); תּוֹלָע has already developed a denominative verb in the Biblical מְתֻלָּעִים (Nahum ii. 4), but Friedrich Delitzsch does not connect it with the Arabic وَلَغَ, 'to lick,' but rather with an Assyrian form signifying originally 'to gnaw' (*Hebrew Language*, p. 66).

[75] So Metmann, *Die Hebräische Sprache*, p. 22, but the word may be most likely related to the Biblical *מזר, 'to be blemished,' from which מַמְזֵר, 'bastard,' is derived (cf. Arabic مَذِرَ, 'to be foul'). Similarly the Biblical *מלץ in Psalms cxix. 103 is not, as is generally believed, from Arabic مَلِصَ, 'to slip', but is a pure denominative from מְלִיצָה.

[76] Levy, *NHbCWB.*, iii. 538.

[77] For lists of such denominatives see Metmann, *Die Hebräische Sprache*, pp. 22—23, and Strack and Siegfried, *Lehrbuch*, pp. 72—73.

[78] Levy, *NHbCWB.*, iv. 627.

[79] So Merx, *Chrest. Targ.*, p. 295, but Kautzsch, *Aram. Gram.*, p. 112, holds that the root here is שְׁדַר, 'to send.'

overflow'. Finally, from מַדַּע, 'knowledge,' are derived the denominative מָדַע, 'to have knowledge,' and the form וְאִשְׁתְּמוֹדַע, 'he recognîzed' (Onkelos and Pseudo-Jonathan on וַיַּכֵּר in Gen. xlii. 8).[80]

Similarly in classical Syriac ܐܶܬܰܓܰܪ, 'to trade,' is found as the taf'el from ܐܰܓܰܪ; while ܐܶܬܰܐܰܢ, 'to sigh,' becomes ܐܶܬܰܐܶܢ, from which is formed the derivative noun ܐܶܬܘܿܢܳܐ, 'sigh'.[81] So, too, the assimilations ܐܶܫܬܰܐܪ, 'to be left over,' for ܐܶܫܬܰܐܪ and ܐܶܬܰܬܪ, 'to be taken,' for ܐܶܬܬܰܬܪ both show the process of denominative formation in its incomplete stages.[82] Nöldeke supposes[83] that ܐܶܓܶܪ, which is found only in the pa'el in the meaning 'to defile,' may be a šaf'el denominative from נכר. The feminine noun ܫܰܚܠܳܐ, 'wrath,' forms the denominative ܫܰܚܶܠ, 'to fill with wrath';[84] and in like manner, ܐܶܟܚ, 'to sweat,' is formed from the feminine noun ܐܘܿܟܚܳܐ, 'sweat.'[85] Other denominatives are ܐܶܬܪܶܫ, 'to be made head,' from ܪܺܫܳܐ, 'first' (cf. ܪܺܫܳܐ, 'head'), and ܐܶܬܡܶܪ, 'to be made lord,' from ܡܳܪܳܐ, 'lord.'

The modern Syriac dialects furnish abundant material. Denominatives from substantive forms are ܒܶܛ, 'to be foolish,' from ܒܶܛܳܢܳܐ, 'devilish' (cf. ܒܶܛܳܢܳܐ, 'devil'); ܫܠܡ, 'to be peaceful,' from Old Syriac ܫܠܡܳܐ, 'peaceful' (cf. ܫܠܡܳܐ, 'peace').[86] New taf'el formations are ܐܶܬܰܐ, 'to come to oneself,' from Old Syriac ܐܶܬܰܐܚܰܒ; ܐܶܬܰܓ, 'to become like a stone, numb,' from ܐܶܬܰܐܓܳܐ.[87] The new causative formations from the old af'el participle in ܡ are also of interest. Here there is

[80] Dalman, *Gram. d. Jüd.-Aram.*, p. 201, but Merx, *Gram. Syr.* p. 227, however, thinks that the šaf'el שְׁמַדַּע is a dissimilation for ܐܶܫܬܰܡܰܕ in Syriac, from which וְאִשְׁתְּמוֹדַע is derived.

[81] Nöldeke, *Kurz. Syr. Gram.*, p. 113 note.

[82] Cf. Wright, *Arabic Gram.*, i. 77. [83] *op. cit.*, p. 127 note.

[84] *ibid.*, p. 42; cf. also Payne-Smith, *Thesaurus*, i. 1299.

[85] Nöldeke, *Neusyr. Gram.*, p. 188, note.

[86] Nöldeke, *loc. cit.* [87] Nöldeke, *op. cit.*, p. 195.

generally an assimilation which, according to Nöldeke,[88] is to be attributed in the main to phonetic changes, although these changes are insufficient to account satisfactorily for all the phenomena in question. The causatives under consideration retain their א throughout, so that it becomes almost an integral part of the root. The ל"ה causatives generally lose the ה, as in أَجْبَى, 'to make captive,' from أَجَبَ, 'to bind'; أَصْعَدَ, 'to make to go up,' from أَصْعَى, 'to go up,' etc. Verbs in ي"ו often lose their و, so that يَلِدَ, 'to sit,' becomes أَيْلَدَ, 'to place'; يَرِمَ, 'to burn,' becomes أَيْرَمَ, 'to burn'; يَلِفَ, 'to learn,' becomes أَيْلَفَ, 'to teach,' etc. The hollow verbs lose their middle radical, and in this way خَامَ, 'to be black,' becomes أَخْيَمَ; خَالَ, 'to bow,' becomes أَخْيَفَ; and خَلَا, 'to die,' becomes أَخْيَدَ. The ע"ו verbs retain the old shortened form of the 'af'el, as in أَبْيَمَ, 'to make hot,' أَبْيَتَ, 'to love,' أَبْيَرَ, 'to suckle,' and the like. Several ל"א verbs lose their final letter, as in أَخْصَى, 'to cover up,' from خَصَأَ, 'to cover,' and أَسْمَسَ, 'to cause to swim,' from سَمَأَ, 'to swim.'[89]

In Assyrian, Meissner[90] has shown that *tappû*, 'companion,' is a secondary derivative with *t* from *ופה, 'to unite'; and that *šutapû*, 'companion' (the Syriac and Aramaic loan-word שׁוּתָּפָא), is an ištaf'al formation from the same root. Similar formations are *tabalu*, 'to take away,' from *abalu*, 'to carry,' and *takalu*, 'to be firm,' from وَكَلَ, 'to entrust'; and Zimmermann,[91] in like manner, finds in the Assyrian *mindêma*, 'why' the secondary stem *מדע, which is common in Aramaic.

[88] Nöldeke, *op. cit.*, p. 196.

[89] For complete lists see Maclean, *Vernac. Syr.*, pp. 106—112, and Nöldeke, *op. cit.*, pp. 196—198.

[90] Cf. *ZA.*, viii. 82—85; but *takalu* may be a proto-Semitic form, cf. p. 98.

[91] Cf. *ZA.*, ix. 104—106.

In Arabic, Wright[92] derives the following denominatives from the VIII form of פ"י and פ"ו verbs after having passed through the process of assimilation: تَجَهَ, 'to turn oneself towards,' from وَجَهَ, to face'; تَخَمَ, 'to suffer from indigestion,' from وَخُمَ, 'to be sick'; تَسِعَ, 'to be wide or spacious,' from وَسَعَ, 'to be sufficient, able to contain'; تَقَى 'to fear God,' from وَقَى, 'to call upon God'; تَكِلَ, 'to rely upon,' from وَكَلَ, 'to leave to one's judgement'; تَلَدَ, 'to be born into a house (slave),' from وَلَدَ, 'to beget'; تَلِهَ, 'to be stupefied by grief,' from وَلَهَ, 'to become bereft of reason'; and تَلَا or تَلَى, 'to follow,' from وَلَى, 'to hold command over.' In the IV form are derived أَتْكَأَ, 'to prop up,' from وَكَأَ, 'to approach'; أَتْلَجَ, 'to insert,' from وَلَجَ, 'to assign'; أَتْهَمَ, 'to be suspected,' from وَهَمَ, 'to think of,' and a few others. In verbs פ"א there is a similar characteristic assimilation of the *'elif* and a new denominative stem, and Wright[92] here gives the following two derivatives: تَخَذَ, 'to take,' from the VIII form of أَخَذَ, 'to take'; and تَجَرَ, 'to trade,' from an assimilated اتَّجَرَ, 'to receive wages,' from أَجْرٌ, 'wages.' Fleischer[93] quotes a complete list of forms which have given rise to denominatives either in the classic or in the later popular language, such as تَرَفَ, 'to lead an easy life,' from وَرَفَ, تُرَاثٌ, 'inheritance,' from وَرِثَ, etc. Mez[94] has listed a large number of Arabic verbs, which he holds to be secondary derivatives from existing stems, but since these stems, such as the saf'al and the haf'al, are no longer to be found in classical Arabic, it seems more probable that the verbs in question were

[92] *Arab. Gram.*, i. 77, 81.
[93] *Kleinere Schriften*, i. 56—57.
[94] *Orientalische Studien, Theodor Nöldeke ... gewidmet*, pp. 249—254.

developed in the older language from a biliteral stem rather than that they are late denominatives. In the modern dialects, Landberg[95] quotes a peculiar denominative *nâfaq* in the dialect of Daṯîna, where اِتَّفَقَ, from وَفَقَ, becomes اِنْتَفَقَ, from which *nâfaq* is developed. In the dialect of Spain, مَثَّنَ, 'to injure the bladder,' is denominative from مَثَانَه, 'bladder,' the root of which is ثن, שׁין; while مَأَنَ, 'to live comfortably,' is a denominative from مَؤُونَة (root أون).[96] According to Vollers,[97] خَتَرَ, in the same dialect, is a denominative from the VIII form of اختار. In the dialect of ʿOmân,[98] the same scholar sees in دخن a denominative developed from دخان which is derived from داخ, 'smoke.'

Finally, in Ethiopic, Dillmann[99] derives the following denominatives from a causative stem in አ, which may be hardened to ዐ through the influence of the following radicals: **አጠፍ**፡, 'to encircle firmly,' from ضَاقَ, 'to become narrow'; **ዐቈረ**፡, 'to wrap up, bind,' from قَارَ, (V, VII); **አዘበ**፡ from زَابَ, זוּב, 'to flow'; **ዐቀመ**፡ from قَامَ, קוּם, 'to arise'; and **ዐረፈ**፡ from رَفَا, הִרְפָּה, 'to weaken, relax.' Some forms retain the old causative prefix ሀ and are thus made denominatives, such as **ሀዘረ**፡, 'to measure with a span,' from זֶרֶת, 'span';[100] **ሀፈጠ**፡, 'to seduce,' from פְּתָה; and **ሀፈነ**፡, 'to be superior,' as compared with פָּנִים, 'face, rank.' Many are formed through the addition of a final ት, these being substantive denominatives. Such are **ጸበት**፡ and **ጸበየ**፡, 'to

[95] Quoted by Nöldeke, *Neue Beiträge*, p. 180.
[96] *ZDMG.*, xxv. 685.
[97] *ibid.*, l. 622.
[98] *ibid.*. xlix. 507.
[99] *Äthiop. Gram.*, p. 118.
[100] Cf. Praetorius, *BA.*, i. 44.

swim'; በሐ፡, 'to have full power over,' from በሠሐ፡, 'power'; and ከሠት፡, 'to uncover,' from כָּסָה, 'to cover.' Praetorius[101] shows that ምሕረ፡, 'to take pity,' is a denominative formation from مَحَار, 'mercy,' a word of frequent occurrence in the Sabæan, from the root حور;[102] and similarly መተሀ፡, 'to simulate,' is a denominative formation from مَتِيهَة, and is derived from the root تَاهَ, 'to stray.'

This brief exposition of the triliteral denominative verb has revealed an interesting process at work in all the important divisions of the Semitic family. Two distinct and diametrically opposite forces have coöperated in the formation of the new denominatives under consideration: decomposition and growth. On the one hand, the weak triliteral verb, under the external pressure of a slowly encroaching formative increment, was gradually forced to contract, and to surrender its weak element, thus becoming biliteral; while, on the other hand, this secondary formative element was amalgamated with the quondam triliteral root, and became an integral part of it, at times even obscuring the original root. The two forces which have brought about this phenomenon appear, at first sight, to be the inherent trend towards triliteralism, and the impulse towards simplification or phonetic decay. Yet this is only partly true, for though a small proportion of the quadriliteral denominatives have thus been shortened, by far the greater number have withstood the tendency towards triliterality. It may practically be said that such contraction has been restricted to the weak verb. Here the weak elements were ruthlessly dropped, scant distinction being observed in such elision as to the initial, medial, or ultimate position of the weak

[101] *BA.*, i. 21—22.

[102] So also Hommel, *ZDMG.*, xlvi. 566.

element in the root. Thus פ"נ, פ"י, פ"א, ע"ע, ע"י, and ל"י verbs have all lost their weak consonant at one time or another.[103] The trend towards triliteralism was plainly of itself not sufficiently strong to displace pure radical elements, and to incorporate servile ones in their stead. There is no inherent reason why the *n* of the פ"נ verbs should yield before the encroachments of *m* or *t*; nor does the principle of phonetic decay explain why a *waw* does not change into its equivalent vowel instead of vanishing utterly. These changes can be satisfactorily explained only on the hypothesis that the weak consonants, unlike the others, had no tangible existence in Semitic linguistic consciousness. In other words, we must return to our old hypothesis, and must posit a subconscious identification of the biliteral root, which has always been preserved. As in the case of the weak verb, the original portion of the new denominative stem reverts to a simplified biliteral form through the subconscious dropping of the older servile elements, or determinatives—again a case of reversion to type.

The most instructive feature here is the new formative increment of the denominative stem. Within the historic period itself, subordinate elements with definite values have become primary and radical, and have lost their original connotations. This fact might seem to contradict the results which we have already attained, since the weak elements of the weak verb have survived as subordinate, while the later subordinate elements have become primary. Yet there is really no contradiction, for the weak elements were more pliant than these later accretions, and yielded more quickly to phonetic decay, falling at once into the subordinate positions which they have continued to hold. There is every

[103] This is especially the case in the maf'el formations in Neo-Syriac.

reason to believe that this adoption of formative elements into the root has been going on unnoticed for ages, and that it was an extensive factor in the original triliteral formations.

iii

Root-Differentiation. In the process of investigation of Semitic roots, Semitic scholars have from time to time noted[104] a phenomenon which can best be described under the term *root-differentiation.* Root-differentiation involves gradations in the intensity of the consonantal sounds of a root for the purpose of modifying its meaning. As has already been noted (p. 5), Gesenius was one of the most important of early theorists to give wide attention to this phenomenon. Besides pointing out the affinity between groups of roots which differ from each other in the intensity of their root-consonants, he also noted a corresponding change in the meaning of such roots:[105] "In der Regel ist mit einem solchen Lautwechsel zugleich eine Nuancierung der Bedeutung verbunden." He gives as example the differentiation of the well-known קָצַץ, 'to hew down,' קָסַם, 'to cut down,' קָשַׂשׂ, 'to peel off.' The same root appears with a dental in קָטַב, 'to cut away, destroy,' and קָדַד, 'to split,' and softens into *כס in כָּסַח, 'to cut off.' With further softening the root becomes גָּזַז, 'to shear,' then flattens to גָּדַד, 'to make an incision,' and finally is gutturalized into חָטַט, 'to pierce,' חָדַד, 'to split,' חָתַת, 'to break up,' etc. The early biliteralists extensively employed this theory in the solution of many etymological problems. Thus the lexico-

[104] Cf. Gesenius-Kautzsch, *Hebr. Gram.*, p. 99; Renan, *Hist. d. lang. Sem.*, p. 97; and Duval, *Gram. Syr.*, p. 32ff.

[105] Cf. Gesenius-Kautzsch, *ibid.*, *Hebr. Gram.* (11th edition) p. 66.

graphical labors of Fürst[106] and the elder Delitzsch[107] abound, for the most part, in this somewhat dangerous association of roots presumed to be of near kinship. While there are many difficulties in the way of accepting a theory based upon such exceptional linguistic phenomena, traces of whose existence have been but casually noted in another linguistic field, the Indo-Germanic,[108] still many contemporaneous scholars subscribe to such a view. König calls attention to its importance in the following words:[109] "Ein hinreichend sicherer dritter Pfeiler jener Brücke (des Ursprungs der Sprache) ist der Parallelismus, welcher zwischen der wahrgenommenen Stärke einer Tätigkeit oder Empfindung und dem Grade der Anspannung der Sprechmuskeln beobachtet wird."

It will not be difficult to find many instances in Semitic to prove that the primitive Semite characteristically expressed the intensity of natural acts and sensations by means of modifications of sound, although this is quite outside of the scope of the present work. A few well-known examples from Hebrew will make the point in question clearer. Thus, the verb פָּצַץ,[110] 'to break apart,' dentalizes

106 In his *Hebräisches und chaldäisches Handwörterbuch über das alte Testament.*

107 In his *Jesurun.*

108 Cf. Indo-Germanic *k_2er-, 'to twist, turn,' and *k_2el- 'to bend, turn;' *gel-, 'to swallow up,' and *ger-, 'to eat up' (Latin *vorâre* for *$g\u̯orare$). See Persson, *Wurzelerweiterung und Wurzelvariation*, p. 30. Brugmann ascribes these parallel forms to the phonetic phenomenon of dissimilation in reduplicated forms (*e. g.* *$gergel$, for *$gerger$, gave rise to both *ger- and *gel-) (Cf. *Grundriß*, i. § 282). Some other examples may be *plu-, 'to flow,' and *$bhlu$-, 'to flow' (Persson, *op. cit.*, p. 131), *ker-, 'to howl,' and *kel-, 'to howl;' *mu-, 'to groan,' and *bu-, 'to groan' (*op. cit.*, pp. 12—14).

109 *Hebräisch und Semitisch*, p. 7.

110 Renan, *op. cit.*, pp. 96—97.

to פָּתַת, 'to crumble'; softens to *בץ in בָּצַר, 'to crop,' and then to בָּזַז, 'to tear away'; and dentalizes to בָּתַת, 'to cleave,' or בָּדַד, 'to separate.' To a like category belong רָשַׁשׁ, רָטַט, רָסַס, רָצַץ, and רָתַת, 'to split, crumble, crash'; as well as לָקַק, 'to lap,' and לָחַךְ, 'to lick'; while another instance is furnished by צָעַק, 'to cry,' זָעַק, 'to complain,' שָׁאַג, 'to roar,' and צָוַח, 'to howl.' A still better example is תָּפַף, 'to beat or drum,' and טָפַף, 'to drip,' which softens to *טב in טָבַע, 'to beat in, impress'; appears with a weaker dental in דָּבַב, 'to drip, prattle, mutter,' and is found, with change to a sibilant, in זוּב, 'to ooze, flow.'[111] Parallels may be found in the other languages,[112] for the phenomenon, doubtless,

[111] Gesenius is of opinion that the roots with stronger consonants are the older, and that those with weaker consonants are of later development (*Hebr. Gram.*, p. 66, 11th edition). Yet, granting that such an impulse for the formation of roots existed on a large scale, it is difficult to determine which type is older and which is younger. It would perhaps be more correct to assume that many of these forms existed side by side from the very start.

[112] Taking these phenomena as a basis, Duval has elaborated a theory of consonant gradation intended to solve the problem of the biliteral root. He holds that one group of consonants has been changed into another to give an additional shading to the original meaning of the root, and he is accordingly enabled to connect (*Gram. Syr.*, pp. 34—35) קשר, ; כשר, ; כרך, עטר, ; עשר, ; and , as direct descendants from a single triliteral root. His explanation of the consonantal changes involved runs as follows: "La palatale *qof* (de קשר) passe en la gutturale ע, celle-ci s'affaiblit en *aleph*, *aleph* lui-même se consolide en *youdh* ou tombe et disparaît de sorte que la racine קשר peut en dernier lieu devenir שר ou avec renforcement de la sifflante צר. La deuxième radicale *šin*, peut permuter avec une autre sifflante plus faible ou plus forte, se fortifier en la muette dentale ط, après une emphatique. La troisième radicale, la liquide *r*, permute avec la deuxième qui est une consonne faible ou s'aspire, et en s'aspirant s'affaiblit, ou se consolide, suivant les exigences du sens, en une gutturale ou autre consonne." The writer regards this explanation as too confused to deserve any further consideration.

dates back to the prehistoric period, inasmuch as the demonstrative roots arrange themselves in similar groups of graded sounds. We thus find, throughout the Semitic dialects, demonstrative elements in *l*, *m*, and *n*. We should naturally expect one in *r* to complete the series, and this is actually to be found, in all probability,[113] in the Mishnaic and Talmudic particle הָרֵי, אָרֵי, 'here, behold,' and in many other dialects, especially in the Syriac ܗܳܟܳܐ, 'here,' and ܐܳܟܳܐ, 'there.' Dillmann has shown[114] that a similar gradation exists in Ethiopic, which has the demonstratives *ta*, *da*, *sa*, and *za* in all four forms.

Interesting as a study of these phenomena would be, they can be considered in the present study only in so far as they serve to check and correct the results obtained in the identification of the consonants which function as root-determinatives. For it must be noted, although Gesenius and his followers often overlooked the fact, that in the process of root-differentiation at most, only two consonants of the first root can shift to form a new root, while the third remains constant;[115] and this principle affords an

[113] Barth, *Sprachwissenschaftliche Untersuchungen*, ii. 27, The present writer is unable to agree with Brockelmann (*Grundriß*. p. 324), and Nöldeke (*WZKM.*, viii. 265, note) (but cf. Hommel, *ZDMG.*, xxxii. 714, note) who regard this *r* as remnant of the imperative of *râ'â*, "to see."

[114] *Äthiop. Gram.*, p. 104.

[115] This oversight has lead investigators into the error of arranging both the determinative and the biliteral into groups of so-called related forms. Thus Lambert, Fürst (*Lexicon*, pp. 2, 377, 528), and others believe that the vowels *a*, *i*, and *u* gave rise to all determinatives: *a* to א and the gutturals; *i* to ג and the palatals, and *u* to ו and the labials; while, in addition, Lambert believes that the ע"ע verbs were differentiated to final *r* and formed the source of liquids, dentals, and sibilants (*Sem. Studies*, p. 358). The correspondences between the different roots that have the same determinative must be noted.

additional proof of the existence of an original biliteral element. Thus, in the examples already cited, the root קָטַל, 'to slay,' shifts to גָּזַל, 'to plunder'; קָצַר, 'to cut, shorten,' to גָּזַר, 'to cut'; קָטַע, 'to cut off,' to גָּדַע, 'to lop off'; כָּרַת, 'to cut,' to גָּרַז, 'to chop'; פָּצַע, 'to bruise,' to בָּצַע, 'to crop'; פָּצַל, 'to peel,' to בָּדַל, 'to divide'; Aramaic נָקַז, 'to pierce,' to נָכַס, 'to slay'; קָטַף, 'to pluck off,' to גָּדַף, 'to wound, revile,' etc. It is quite clear that, while the root contains at the most two variants, there is a fixed constant which may be either prefixed, infixed, or suffixed to the variable root. This constant is the root determinative.

iv

Biblical Folk-Etymologies. Renan was the first to note that in the folk-etymology of names in the Bible, the biliteral element of a root played the important part. He accordingly says:[116] "Il est remarquable qu'on y suppose presque toujours la bilitéralité primitive des radicaux: ainsi קַיִן joue avec קָנִיתִי (Gen. iv. 1), נֹחַ avec נָחַם (Gen. v. 29), etc." König[117] has returned to the subject and has called attention to its importance. Little faith can of course be placed in folk-etymologies, yet they certainly have one value; that the derivative form is an approximation, at least in sound, to the original with which it is compared.[118] Accordingly, the Biblical etymologist, confining himself to

Thus, רָלָה, 'to lift up,' and תָּלָה, 'to hang,' Aramaic חַמַט, 'to pierce,' and חָדַד, 'to sharpen'; Hebrew שָׁחַט, 'to slaughter,' and שָׁחַד, 'to bribe' (*bestechen*).

[116] *Hist. d. lang. Sem.*, p. 126.

[117] *JE.*, x. 468.

[118] An example of such a popular etymology is the German *Sündflut* (flood of sin) corrupted from Old High German *sinfluot*, 'big flood' (cf. Weigand, *Deutsches Wörterbuch*, Gießen 1910). In English, *sparrow-grass* for *asparagus*, and *rarebit* from *rabbit* are examples (cf. *Century Dictionary and Cyclopaedia*, 4974 and 5798).

the evidence of sound, conforms in his derivations to strict phonetic law. Anything that is harsh to the ear must necessarily be avoided. If, therefore, the *y* in קַיִן had been a phonetic obstacle to its etymology from קָנָה such an etymology would not have been made. It is evident that the author did not consider his etymology to be a phonetic impossibility, especially as he may have had in mind the analogous formation of דַּיָּג, which, though etymologically connected with דּוּג is, nevertheless, closely related to דָּגָה. If, then, a subconsciousness of the biliteral root once be granted, the derivation of קַיִן from קָנָה, of נֹחַ from נָחַם,[119] and the pun on יֶפֶת from פָּתָה (Gen. ix. 27) are all phonetically plausible.[120]

As a summary of the results thus far attained, it may be said that evidence adduced from various quarters indicates that the Semitic triliteral root had its origin in a former biliteral root. A subconsciousness of the older bi-

[119] Even here the Biblical etymologist was in error; for, while a root *ynḥ*, 'to rest' exists, yet, the root נחם, when associated with רחם, לחם, and חמר, shows a common biliteral root *ḥm*. Haupt thinks that נֹחַם is a privative pi'el from נָחַם, to sigh (cf. *BA.*, vi. 2, note 22). The Rabbis feel the difficulty in the etymology and ask very pertinently: "Either let the text read יְנִיחֵנוּ, 'he will relieve us,' or let it be נַחְמָן, who will comfort us (יְנַחֲמֵנוּ)" (*Genesis Rabba*, xxv. 2).

[120] It is remarkable that the Rabbis, as a general rule, in their popular etymological derivations in the Aggada always seek out the biliteral characteristic of the word to be explained and generally fail to consider the third radical of any importance (an exception is in the passage quoted in the above note). They seem to follow in this the precedent set by the Biblical etymologist. Thus, in *Genesis Rabba*, xvi. 1, the etymology of the names of the great streams in the garden of Eden is as follows: "Pishon, because it rears flax (*pišton*); Hiddekel, because it is keen in sound (*ḥaḏ qôl*); and Prath, because its waters constantly increase (*pârâ*)." Instances of such etymologies are so numerous that it will not be necessary to enter into the matter any further.

literal character still survives in the weak verb. Analogy itself, to which alone the tendency towards triliteralism is due, could not obliterate all traces of the former biliteral character of Semitic roots. Even the strong verb, where the determinative has become a fixed and permanent element, still shows evidence of the subordinate nature of some of its consonants, especially in the case of the liquids *l* and *n*. The recognition of these facts affords a new point of view in the treatment of the weak verb: that it was the product of a regressive rather than of a retarded development, as the older biliteral school maintained; and that its present biliteral form is simply the skeleton of its quondam biliteral form. The existence of such a prehistoric biliteral can no longer be doubted. The problem now before us is the investigation of the way in which this biliteral developed into its present triliteral form.

CHAPTER II

A STUDY OF PLURILITERALS AND THE RESULTING THEORY

Many have maintained that the only method by which the investigator may safely determine the early process of root-formation in Semitic is detailed study of the growth and development of triliterals into a pluriliteral form. As a matter of fact, there can be no doubt that, in the majority of instances, the pluriliteral is a direct development from the triliteral. There is, accordingly, justification for the belief that the triliteral was developed from the biliteral in a manner analogous to that by which the pluriliteral was evolved from the triliteral; for, if the roots were expanded beyond the triliteral limits to which a rigid analogy had confined them, we may reasonably suppose that the growth in question was, from the very first, continuous along the same lines, so that the present triliteral form of the root was a logical sequence of its former biliteral character.

It was Dietrich,[121] one of the older biliteralists, who was among the first to recognize clearly the unmistakable affinity between the root-determinative in the pluriliteral and the root-determinative in the triliteral. Gesenius-Kautzsch divides the quadriliteral stems in Hebrew into the following classes:[122]—*a*) those which have an added or developed

[121] *Abhandlungen*, p. 326: "Daß mit der bisherigen Beschreibung (der pluriliteraе) zugleich die Entstehung der triliteraе aus den biliteris vorgezeichnet ist, liegt zutage."

[122] *Hebr. Gram.*, p. 101.

consonant in some part of the root; *b*) those which result from the fusion of two triliteral stems; and *c*) those which are evidently survivals of verb stems which once had an independent existence (*e. g.* שַׁלְהַב, 'to blaze,' an old šaf'êl from לָהַב, 'to burn'). As regards class *b*, the Hebrew examples of which are חַבַצֶּלֶת, צְפַרְדֵּעַ, and פַּלְמֹנִי, Dietrich has shown[123] that such a fusion is contrary to the laws of Semitic philology, and that it occurs only in popular expressions where the two fused elements are in constant use, as in פְּלֹנִי אַלְמֹנִי, 'a certain one,' which are combined into פַּלְמֹנִי;[124] whereas the other two examples are, no doubt, the result of direct development from single triliterals.[125] This class of pluriliterals may thus be entirely eliminated from the discussion, which will be restricted to the other two classes, those with a developed consonant, and those which show survivals of older stems.[126] These two classes are, in all probability, identical; for, it can scarcely be supposed that the developed elements of the pluriliteral root are of comparatively late origin, or that they do not date from the early Semitic period. The fact that the same formative elements are to be found in every branch of the Semitic family, instead of being restricted to a particular dialect, strongly militates against such an hypothesis. Moreover, the generic terms for well-known domestic animals

[123] *op. cit.*, p. 304.

[124] Merx (*Gram. Syr.*, p. 147) is of the opinion that many quadriliterals originated from such a fusion of two triliteral stems, and Leguest (*Études sur la formation des racines sémitiques*, Paris 1858) thought that he could reduce all triliteral roots to a fusion of two biliteral elements. The Arabic furnishes the greatest number of instances of such fusion (cf. بَسْمَلَ, حَمْدَلَ, etc.).

[125] Dietrich, *op. cit.*, pp. 284, 296.

[126] The reduplicated pluriliteral forms (קַטְלְטַל, etc.) will be omitted from the following discussion (cf. Gesenius-Kautzsch, *op. cit.*, p. 101).

and cultivated plants show these formative elements in the earliest period, so that they may be regarded as survivals of older stems, the special connotation of which had vanished at an early date. The forms that display an infixed nasal or liquid (*m*, *n*, *l*, or *r*) are everywhere regarded as dissimilated intensive stems, and their nasal infix may be considered the characteristic of the stem.

Lagarde has expressed the opinion,[127] which is supported by much evidence, that such methods of conjugation were very extensive in proto-Semitic, and that they also included all the various conjugations now found in the separate languages. For example, the VIII form of the Arabic is also found in the Moabite of the Mêša stone in the form הלתחם. Lagarde writes: "Einer besonderen Untersuchung muß vorbehalten bleiben festzustellen, ob nicht in hitpa'êl und den parallelen und entsprechenden aramäischen Bildungen eine weitgehende Entstellung des alten Besitzes der Sprache vorliegt."[128] In the following discussion, in which, for the sake of exact terminology, the pluriliteral stems will always be referred to a triliteral base pâ'al, both nominal and verbal stems will hold equal rank; since, in all likelihood, the formative elements in both are identical in origin, just as they are of identical form. Moreover, primary and secondary pluriliterals are of equal importance, for the latter display, in even clearer fashion, the process of root-formation.

[127] *Bildung d. Nomina*, p. 10 (*Abhandlungen K. Gesellschaft der Wissenschaften zu Goettingen*, xxxv. 1888).

[128] See also Lagarde, *Symmicta*, i. 125, note 2. A better example is furnished by the name of the divinity Ištar, Phœnician עשתרת, Palmyrene עתר, Sabæan עתתר. This is best derived from a common proto-Semitic VIII form of עשר, Aramaic עתר, Arabic غَثَرَ, 'to be luxuriant, abundant,' with the usual metathesis of *tš* to *št* (Cf. Hoffmann, *Abhandlungen K. Gesellschaft d. Wissenschaften zu Gœttingen*, xxxvi. 22) (Cf. עַשְׁתְּרוֹת-צֹאנֶךָ, Deuter. vii. 13).

i

Semitic Pluriliterals. A. Hebrew. The two puzzling forms in Hebrew upon which Stade has based a new causative stem, the taf'êl, *i. e.* תִּרְגַּלְתִּי (Hos. xi. 3), 'I taught to walk,' and תִּתַּחֲרֶה (Jer. xii. 5), 'thou wilt compete,' are best derived from nouns with preformative ת,[129] precisely as the loan-word תַּרְגֵּם, 'to interpret,' is a denominative formation from the Assyrian *targumânu*,[130] which is probably derived from *ragamu*, 'to shout, call'; the *t* is in all cases an original reflexive element. Of šaf'êl forms the Hebrew possesses two[131]—שַׁלְהֶבֶת, 'flame,'[132] and שִׁקְּעוּרוֹת (Lev. xiv. 37), 'depressions,' the root of the latter being seen in שָׁקַע, 'to be deep,' and also in קְעָרָה, 'flat-dish,' while a saf'êl form with a privative sense is doubtless present in סַנְוֵר, 'to deprive of light, blind,'[133] which is best derived from נוּר, 'to be light,'[134] חַבַּצֶּלֶת, Syriac ܟܘܒܨܠܬܐ, 'crocus,' must still be con-

[129] Such nouns as Neo-Hebrew תַּחֲרוּת, 'competition,' and an hypothetic *תַּרְגַּל (cf. Neo-Hebrew רַגִּילוּת, 'habit'). See Barth, *NB.*, p. 279, note.

[130] So Delitzsch, *Hebrew Language*, p. 50, note 1, but Muss-Arnolt (*Dictionary*, p. 1192) thinks that *targumânu* is in turn a loan-word from the Aramaic תְּרְגְּמָן; there is no root *רגם, however, in Aramaic with the meaning of 'to speak,' but Arabic has رَجَمَ 'to conjecture' (p. 23).

[131] Cf. Stade, *Lehrbuch*, p. 122. Wright, *Comp. Gram.*, p. 204.

[132] Barth, *Etymologische Studien*, p. 49, seeks to connect this with the Arabic شِهَابٌ, 'flame,' but this is untenable for phonetic reasons (ش = Hebrew שׁ, $š_3$), and his objections as to the non-existence of Hebrew causative *š* disappear when we assume that the form is a survival from a very early period of the language when *שַׁלְהַב, 'to 'enflame,' existed. Nöldeke, however, thinks it is an Aramaism (Sem. Sprachen p. 13).

[133] So Hoffmann, *ZATW.*, ii. 68, note 1; but Ewald thinks that it is a causative from עִוֵּר, 'to blind' (*Lehrbuch*, p. 320), while Halévy (*REJ.*, xi. 66) considers it to be from a root *סָנַר.

[134] Another saf'el derivative is סֶלְעָם, 'locust,' literally 'one who swallows' (König, *Lehrgeb.*, ii. 404).

sidered a ḥaf'êl derivative from *בצל,[135] and the etymology of Delitzsch,[136] which connects it with the Assyrian *ḫabaṣillatu*, 'reed,' must be abandoned. An 'af'êl form is seen in the common Semitic term for 'mouse,' Hebrew עַכְבָּר, Arabic عُكْبَرٌ, Syriac ܥܟܒܪܐ, the root being generally derived from *כבר.[137] Infixed elements are still more common. Such are the par'êl forms שַׁרְבִּיט, 'sceptre,'[138] as compared with שֵׁבֶט, 'rod'; פִּרְסֵם, 'to tear off,' from פָּסַם, 'to clip'; and מְכָרְבָּל, 'bemantled' (I Chr. xv. 27), as compared with *כבל, 'to bind'; while חַרְגֹּל, Syriac ܚܪܓܘܠܐ, Arabic حَرْجَلٌ 'locust' from حَجَلَ, 'to hop,' as well as סַרְעָפָה, 'bough,' from סָעַף, 'bough,' may be similarly explained. Delitzsch[139] likewise believes that אַרְנֶבֶת, Syriac ܐܪܢܒܐ, Arabic أَرْنَبٌ, 'hare,' is derived from *ארנב, 'to jump, leap,' inferred from the Assyrian word for 'hare,' *annabu*. Among pal'êl forms may be mentioned שַׁלְאֲנָן, 'quiet,' as compared with שַׁאֲנָן, 'at ease, quiet'; וַלְעָפָה, 'raging heat,' from וָעַף, 'to rage'; and גַּלְמוּד, 'hard, barren,' Arabic جَلْمَدٌ, 'rock,' from the root جَمَدَ, 'to become hard.'[140] These forms are generally classed as dissimilated pi'êls,[141] although it is difficult to discover their particular intensive connotation in many of the cases noted. With sufformative ל, we find עֲרָפֶל, Aramaic עֲרַפַּיְלָא, Syriac ܥܪܦܠܐ, Assyrian *erpu*, 'cloud,' from עָרַף, 'to drip,[142] rain,' and כַּרְמֶל, 'plantation,' from כֶּרֶם, 'vine-

[135] Cf. בְּצָלִים, 'onions'; but see *BA.*, VI. iv. 104 (from *חמץ).

[136] *Prolegomena*, p. 82 and Halévy's criticism in *REJ.*, xiv. 149.

[137] Levy, *NHbCWB*, iii. 645, Barth, *NB.*, p. 207.

[138] Cf. Lagarde, *Reliquiae*, p. xlvii, Brockelmann, *Grundriß*, p. 510, and Gesenius-Kautzsch, *op. cit.*, p. 238.

[139] *Prolegomena*, p. 114 and Barth, *NB.*, p. 222.

[140] Cf. König, *Lehrgeb.*, ii. 472—473.

[141] So Gesenius-Kautzsch, *op. cit.*, p. 101, 238 and König, *loc. cit.*, who terms these infixed liquids "Übergangskonsonanten."

[142] Vollers (*ZA.*, xvii. 311) thinks that the suffix here is אֵל, but this is untenable, for the *l* is as much a formative element as *m* or *r*.

yard.' Quadriliteral substantives with sufformative מ or נ are fully treated in all standard grammars,[143] these including סֻלָּם, 'ladder,' from סָלַל, 'to lift up'; אוּלָם, 'porch,' from *אול, 'to be in front'; and the adjective עֵרֹם, 'naked,' from עור, 'to be exposed.' Substantives with sufformative נ are of frequent occurrence, such as צִפֹּרֶן, 'nail of finger,' גַּרְזֶן, 'axe,' etc.[143] Quadriliterals with sufformative ש include עַכָּבִישׁ, the common term for 'spider,' Syriac ܥܟܘܒܝܫܐ, 'asp,' Aramaic עַכְבִּיתָא, 'spider or asp,' Arabic عَنْكَبٌ, 'spider,' the root apparently being عَكَبَ, 'to spin';[144] חַלָּמִישׁ, 'flint,' Assyrian elmêšu,[145] 'diamond,' from חָלַם, 'to be hard, sound'; חָרְמֵשׁ, 'sickle,' from חָרַם, 'to cut away'; and רָטַפַּשׁ, 'to be young, fresh,' is, according to König,[146] akin to רָטַב, 'to be moist.' Among the derivatives with a labial sufformative may be cited עַקְרָב, 'scorpion,' Syriac ܥܩܪܒܐ, Arabic عَقْرَبٌ, which is possibly derived from *עקר, Arabic عَقَرَ, 'to tear, pierce';[147] and עֲטַלֵּף, 'bat,' best taken from *עטל=*עלט,[148] Arabic غَطَلَ, 'to be cloudy, dark.'

B. Aramaic. In his study of the Aramaic of the Talmud Babli, Levias[149] has reached conclusions with regard to the quadriliteral verb which are very similar to the theory which is here defended; and he justly regards these quadriliterals as survivals of primitive stems that at one

[143] Cf. Gesenius-Kautzsch, *op. cit.*, pp. 237—238.

[144] So Levy, *NHbCWB*, iii. 645.

[145] Delitzsch, *op. cit.*, pp. 85—86, note, Nöldeke, *ZDMG.*, xl. 728. Ryžička, on the other hand, thinks that both חַלָּמִישׁ and חָרְמֵשׁ are dissimilated from *חמש (cf. *BA.*, VI. iv. 79).

[146] *Lehrgeb.*, i. 203. It is, however, much more probable that רָטַפַּשׁ has developed from *טָפַשׁ, 'to be wide, expand,' with preformative *r*. Gesenius-Zimmern-Buhl (p. 691) and Gesenius-Brown-Driver (p. 936) regard the form as a metathesis from *טרפש.

[147] Levy, *op. cit.*, iii. 689, Barth. *op. cit.*, p. 207.

[148] Levy, *op. cit.*, iii. 634; cf. the Hebrew עַלְטָה, 'darkness' (Genesis xv. 17).

[149] *Aram. Gram.*, pp. 158—163.

time had a more extensive usage. Such stems are formed by prefixing ה, ש, ס, נ, or ת, or by infixing נ, ר, ש, or ת. The stems with ה, ש, or ס, are regarded by Levias[149] as old causatives, and those with נ or ת, although now active in force, as old reflexives. The šafʿêl forms include שַׁלְחַף, 'to change,' שַׁסְתַּם, 'to shut in,' שַׁלְהַב,[150] 'to flame,' and שַׁעֲמַם, 'to confuse'; safʿêl forms are סַרְהַב, 'to hasten,' סַרְגֵּל, 'to rule,' and סַקְבֵּל,[151] 'to meet'; the hafʿêl is seen in הֵימִין, Syriac ܗܰܝܡܶܢ, 'to hold as true';[152] the tafʿêl in תַּפְשַׁח, 'to chop off,' and תַּרְבִּץ, 'to sprinkle'; and the nafʿêl in נַשְׁתִּן, 'mingere,' Hebrew הִשְׁתִּין. Parʿêl forms are שַׁרְבֵּב,[153] 'to cause to drag,' הַרְזַק, 'to close in,' גַּרְבֵּל,[154] 'to sift through.' עַרְטַל, 'to be naked' (Arabic عَطِلَ, 'to be destitute'), and סַרְנַק, 'to be choked'; panʿêl, נַנְדַּר, 'to go beyond bounds'; while the pašʿêl is seen in בַּשְׁקַר, 'to inquire into' from בְּקַר, 'to seek.' Forms with sufformatives[155] include the adjective סַמְקָרְיָי, Syriac ܣܡܩܘܪܝܐ, 'reddish,' as compared with סַמְקָא, 'red'; the nouns פַּרְזְלָא, 'iron,' אַרְמַלְתָּא,[156] 'widow,' and נָבְרַשְׁתָּא, Syriac ܢܒܪܫܬܐ, Arabic نِبْرَاسٌ, 'candlestick'; while

[149] *Aram. Gram.*, pp. 158—163.

[150] צַלְהַב, 'to be bright, aflame,' is not, with Petermann, (*Ling. chald.*, p. 12) a cansative form of לָהַב, akin to שַׁלְהַב, but rather a palʿel form of צָהַב, 'to shine, be like gold' (cf. *Mechilta* on Exodus xvi. 5), which fell under the influence of שַׁלְהַב, 'to flame up,' and assimilated itself to it, thus acquiring the meaning of 'to burn.' See also Barth, *Etym. Studien*, p. 49, note.

[151] Cf. Petermann, *Ling. Chald.*, p. 12, and Dalman, *Gram. d. jüd. Aram.*, p. 201.

[152] But this may perhaps be a Hebraism (Cf. Vollers, *ZA.*, xvii. 326—327).

[153] Levias, *loc. cit.*, and Petermann. *loc. cit.*

[154] On its connection with גָּבַל, see Kohut, *Aruch Completum*, ii, 349.

[155] Cf. Dalman, *op. cit.*, p. 133.

[156] Cf. Margolis, *Bab. Talm. Gram.*, p. 25, and Ryžička, *BA.*, VI. iv. 104.

פָּרַקְד, 'to lie on the back'[157] (cf. פָּרִיקְתָּא, 'vertebral column'), perhaps has a suffixed ד.

C. Syriac. The Syriac shows similar conditions.[158] Among the šaf'el forms may be cited ܐܫܪܪ, 'to let loose,' ܐܫܠܡ, 'to complete,' ܐܫܗܐ, 'to delay,' and ܐܫܕܥ, 'to inform'; and the saf'el forms include ܣܡܟ, 'to bring before,' and ܣܥܕ, 'to give nourishment,' (cf. Aramaic אַסְיָ, 'to heal'). A denominative taf'el is found in ܐܬܠܦ, 'to teach,' from ܐܠܦ, 'disciple'; an 'af'el, the causative connotation of which was no longer felt, is ܐܐܫܟ, 'to find'; and a secondary maf'el is ܡܫܟܢ, 'to pawn,' from ܫܘܟܢܐ, 'pledge.' Among pô'el and pay'al forms are ܐܬܚܘܝ, 'to be twisted,' from ܚܘܐ, 'to twist'; ܐܬܣܡܟ, 'to lean on a staff,' a denominative from ܣܘܡܟܐ, 'staff'; and ܣܥܪ, 'to support,' from ܣܥܪ, 'to think'; and the par'el forms[159] include ܓܠܓܠ, 'to roll,' ܚܠܡܠ, 'to lop off,' ܙܚܘܚ, 'to twist' (from ܙܚ), and ܚܕܐ, 'to rejoice' (cf. ܐܬܚܕܐ, 'to be delighted'). A new pan'el formation occurs in ܓܒܪܢ, 'mighty,' from ܓܒܪ, Hebrew גִּבּוֹר, 'hero.' Most interesting of all are the pa'alî[160] forms, in which the sufformative is ـــ. Such are ـــ, 'to estrange,' which is evidently a denominative from an adjective ـــ, 'of strange descent'; ـــ, 'to put under,' from the adjective ـــ, 'lowest'; and ـــ, 'to take into domestic service,' from ـــ, 'belonging to the household.' Similar formations occur also from pure roots which have no adjectival form associated with them, such as ـــ, 'to be astounded, confused' (cf. Hebrew בָּלַהּ, 'to frighten'), ـــ, 'to exile,' etc. It would seem from these examples that

[157] A better example with suffixed *d* is perhaps Hebrew רִפְסָדָה, 'raft,' from *רפס (König, *Lehrgeb.*, ii. 404).

[158] Cf. Nöldeke, *Kurz. Syr. Gram.*, pp. 125—127.

[159] Brockelmann, *Grundriß*, p. 510.

[160] Cf. Merx, *Gram. Syr.*, p. 233.

the adjectival *y* was analogous in origin and in signification with the formative *y* in the quadriliteral, and that both gave the root a denominative force which converted it, as occasion demanded either into a substantive or into a verb. Nöldeke shows instances of other denominative verbs with various substantive suffixes, such as ܬܡܨܝ,[161] 'to sieze firmly' (substantival *n*), and ܐܨܝ, 'to shape, form,' a denominative from ܐܨܐ, 'form, image.'

C. Modern Aramaic and Syriac. These dialects contain a large number of pluriliteral formations, especially denominative forms, though only a few can be noted here. In Mandaean, Nöldeke[162] includes among the šaf'el forms שרגז, 'to bring into wrath,' שרהב, 'to broaden,' שרהז, 'to disappear,' etc. Saf'el forms are סרהב, 'to hasten,' and סספל, 'to smooth, stroke'; pan'el and pam'el forms[163] are נאננר, 'to cut down,' האמביב, 'to heat oneself' (cf. ܚܒܒ, 'to love'), and האמביל, 'to destroy' (cf. חַבַּל, 'to destroy'); while a par'el form is seen in the adjective ארטיל,[164] 'naked' (cf. Arabic عَطَلَ, 'to be bare'). In modern Syriac,[165] we may regard the form ܫܫܢܐ, 'to change,' as a šaf'el; ܙܙܝ, "to make to totter,' from ܙܝ, 'to shiver,' as a saf'el; ܒܒܠܠ, 'to be boiled to pieces' from ܒܠܠ, 'to seethe,' as a taf'el; and ܐܬܬܫܚ, 'to be proud,' from ܫܚ, 'to shine,' as an 'eštaf'al. Maf'el formations are the regular causative stems,[166] as ܡܫܚܠ, 'to draw out,' ܡܒܪܩ, 'to make to sparkle,' etc. Among the pan'el and pam'el forms may be cited ܒܢܝ, 'to

[161] So Nöldeke, *loc. cit.*; but Payne-Smith (*Thesaurus.* i. 1335) thinks that it is a pam'el form from ܨܚܝ, 'to prevail.'

[162] *Mand. Gram.*, p. 212.

[163] Nöldeke, *op. cit.*, p. 76, and Brockelmann, *loc. cit.*

[164] Nöldeke, *op. cit.*, p. 128.

[165] Nöldeke, *Neusyr. Gram.*, pp. 188—199.

[166] Maclean, *Vern. Syr.*, p. 106.

roll' (cf. Aramaic גַּנְדַּר, 'to roll'), and ܓܰܢܓܶܣ, 'to hew out,' from ܓܘܣ, 'to hollow out'; and the par'el forms include ܦܰܪܓܶܚ,[167] 'to sprout forth,' ܒܰܪܓܶܚ, 'to embrace' (cf. Hebrew חִבֵּק, 'to embrace'), ܦܰܠܬܶܠ, 'to twist,' ܦܰܣܣܶܣ, 'to pulverize,' from ܦܣܣ, 'to grind to powder,' etc. A peculiar pa'mel form exists with an infixed ܡ after the second radical. Examples are ܦܰܢܡܶܟ, 'to fold up,' as compared with ܦܢܟ, 'to wind'; and ܟܰܢܡܶܠ, 'to roll around,' as compared with ܟܢܠ, 'to roll.' The denominatives from substantives with sufformatives include ܢܰܗܪܶܢ, 'to give light,' from ܢܗܪܐ, 'giving light, shining'; and ܓܰܢܓܶ, 'to be leprous,' from ܓܰܪܡܐ, 'leprous'; and forms with sufformative *l* are seen in ܢܰܬܠܶ, 'to give,' from ܢܬܠ, and ܙܰܕܠܶ, 'to be afraid,' from ܙܕ, 'to fear.'[168]

D. Assyrian. In Assyrian, Brockelmann[169] thinks that the quadriliterals *balkatu*, 'to tear down,' *ḫarmaṭu*, 'to destroy,' and *paršadu*, 'to flee,' are instances of par'el and pal'el forms, although *paršadu* is rather a development from *parašu*, 'to fly,' with a suffixed *d*. An interesting phenomenon is presented by certain pa'alî formations in which the ending has a denominative force, these including פלכה, 'to be wide, open,' from *palkû*, 'wide,' and פרכה, 'to cease,' from *paraku*, 'to shut off.'[170] Delitzsch[171] thinks that the stem פרדא, to be bright,' may be an instance of a new formation with sufformative א.

[167] ܦܰܪܓܶܚ is not, as Payne Smith believes (*Thesaurus*, 3956) a saf'el from *ܢܚ, but rather a par'el from *סעף, 'to spread apart' (So Nöldeke, *op. cit.*, p. 191).

[168] Only in the phrase ܠܐ ܙܰܕܠܶ ܠܟܘ, 'do not fear,' in the dialect of Urmiah, but in Ashita and Lower Ṭiari in all tenses (Maclean, *Dictionary of Vern. Syr.*, p. 84).

[169] *Grundriß*, p. 511.

[170] Cf. Delitzsch, *Assyr. Gram.*, p. 319.

[171] *Loc. cit.*

E. Classical Arabic. The Arabic language has retained the impulse towards the formation of quadriliterals to a much greater degree than any of the languages of the North Semitic group. The subject has been ably dealt with by Dietrich,[172] later by Schwarzlose (*De linguae arabicae verborum pluriliteralium derivatione*, Berlin, 1854), and at considerable length by Fraenkel (*Beiträge zur Erklärung der mehrlautigen Bildungen im Arabischen*). Both Dietrich[173] and Schwarzlose,[174] who naturally followed the older biliteral school, have seen in the mode of formation of these quadriliterals striking analogies to the way in which the triliteral root has been developed from an older biliteral type. The present investigation corroborates this view.

A naf'al form[175] is seen in تَخْرَبَ, 'to pierce holes in' (of a canker-worm), from خَرَبَ, 'to perforate.' Fraenkel[176] holds that the ء of the 'af'al forms has arisen from an original hamza, and it is possible that the development may have taken place at a very early period. Here belong أَصْفَرُ, 'yellow,' and عَصْفَرَ, 'to paint yellow'; عَبْهَلَ, 'to leave a camel unguarded,' and أَبْهَلَ, 'to permit one to do as he pleases'; and عَثْجَلٌ, 'thick', the same as أَثْجَلُ, 'thick.' Fraenkel[177] cites a large number of haf'al forms including هَبَلَّعٌ, 'voracious,' from بَلَعَ, 'to swallow'; and هَزَلَّجٌ, 'fleet wolf or stork,' from زَلَجَ, 'to glide.' Although Fraenkel[177] reaches no definite conclusion as to the origin of the ء,

[172] *Abhandlungen*, pp. 305—326.

[173] *op. cit.*, p. 326.

[174] *op. cit.*, p. 3 ff.

[175] Several more examples are given by Levias, *Aram. Gram.*, p. 162, note.

[176] *op. cit.*, p. 1 ff.

[177] *op. cit.*, pp. 13—16; see Vollers, *ZA.*, xvii. 326—327 concerning the origin of causative prefixes; also Wright, *Arabic Gram.*, i. 36.

nevertheless, in view of the fact that many of these haf'al forms are merely substantive formations of late date, while a few appear to be old causatives, it seems safe to infer that an early tendency to form causative derivatives in *s* was here retained from the older language; and although the *s* died out in Arabic as a causative element, its use as a formative element was retained because of the influence of older analogies. Similarly retained forms in the saf'al include[178] سَلْقَى, 'to throw down flat on the back,' سَقْلَبَ, 'to dash to the ground,' and سَلْعَفَ, 'to swallow.'

Infixed formations are frequent in Arabic, and it is especially interesting to note that the infixes in question may stand either after the first or after the second radical. Par'al forms[179] are عَرْقُوبٌ, 'heel-tendon,' as compared with عَقِبٌ, 'heel,' and قَرْمَطَ, 'to contract, curtail,' as compared with قَمَطَ, 'to tie up.' Pal'al[179] forms are فَلْطَحَ, 'to expand,' from فَطَحَ, 'to make broad,' and زَلْقَمَ, 'to swallow,' from زَقَمَ, 'to gobble up.' Pan'al forms[180]-are عَنْقُولٌ, 'bunch' (of grapes), from عَقَلَ, 'to twist into a knot,' and حُنْدُرٌ, 'black of the eye,' as compared with حَدَرَةٌ, 'eye'. Pam'al[181] forms are مُصْمَقِرٌ, 'very sour' (of milk), as compared with مُصْقَرٌ, 'sour milk,' and دُمَلِصٌ, 'glistening,' as compared with دِلَاصٌ, 'glistening.' A pa'lal[182] form is حَدَلِقَةٌ, 'black of the eye,' the same as حَدَقَةٌ, 'black of the eye,' and a pa'mal[183] is seen in جَلْمَطَ, 'to shave the head,' from جَلَطَ,

[178] Wright, *op. cit.*, i. 46.

[179] Cf. Dietrich, *op. cit.*, pp. 307—308, and Fraenkel, *op. cit.*, pp. 16—25.

[180] Lane, *Lexicon, ad loc.*

[181] Dietrich, *op. cit.*, p. 308 and Lane, *op. cit., ad loc.*

[182] Dietrich, *op. cit.*, p. 311, and Lane, *op. cit., ad loc.*

[183] Wright, *op. cit*, p. 47. The infixation after the second radical may be due to the influence of جَلَّمَ, 'to shear,' upon the root.

'to scratch.' All these forms are very often paralleled by geminated intensives, and this fact clearly shows that to the Semitic mind these infixed forms have an intensive connotation. The liquid infix is generally considered to be a dissimilation of the gemination of the older intensive stem,[184] although there are many difficulties in the way of such an explanation. A similar intensive type is one with a guttural infix. This differs from the geminated intensive in that, while the gemination is usually believed to have been resolved by dissimilation into a liquid or nasal, the guttural infix apparently originates from the lengthening of the vowel of the geminated stem.[185] The forms actually found are p'a'al and pah'al. P'a'al forms are قَعْسَرٌ, 'thick, strong,' from قَسَرَ, 'to force, overpower,' اِقْعَنْصَرَ, 'to contract until the ground,' from قَصَرَ, 'to become short.' Pah'al forms are زُهْلُوقٌ, 'fat,' from زَلِقَ, 'to shave, smooth,' and بُهْصُلٌ, 'thick,' from بَصَلٌ, 'onion (having many coats).' Fraenkel[186] also enumerates many cases of a guttural infix after the second radical. A و infixed after the second radical[187] is found in زَحْوَلَ, 'to make retire,' from زَحَلَ, 'to withdraw.'

In the pluriliterals with sufformatives, we again find liquids, gutturals, sibilants, and labials, and there are also

[184] So Fraenkel, *op. cit.*, pp. 20—21. He believes that the dissimilation of the gemination was due mainly to the influence of guttural and emphatic sounds in the root. But how are the roots without any guttural or emphatic sounds to be explained?

[185] Fraenkel (*op. cit.*, p. 27) believes that the p'a'al forms originate from the presence of an emphatic sound in the root: seven out of the twelve forms quoted display an emphatic sound; while only the pah'al forms may originate from an intensive stem (p. 35).

[186] *op. cit.*, pp. 27—34; 36—38.

[187] Wright, *loc. cit.*

occasional palatal sufformatives. The sufformatives are used with especial frequency in the formation of substantives. Thus the following derivatives occur with sufformative *l*:[188] فُرْعُلٌ, 'young hyena,' from فَرَعَ, 'to sprout forth'; قَعْبَلٌ, 'small cup,' from قَعْبٌ, 'cup,' while Wright[189] quotes شَمْعَلَ, 'to be scattered,' from شَمَعَ, 'to be scattered.' With sufformative *m*,[190] the following may be mentioned: جِذْعِمَةٌ, 'young' from جَذَعٌ, 'stripling'; and جَلْهَمَةٌ, 'meadow, open yard,' as compared with جَلْهَةٌ, 'uncovered valley.' Substantives with sufformative *n* occur with the utmost frequency in all the Semitic dialects, and need no special mention. Sufformative *r* is found in جَمْهَرَ,[191] 'to collect,' as compared with جَمَّ, 'to be abundant,' and جَمَعَ, 'to collect'; شَمْخَرَ, 'to be proud,' from شَمَخَ, 'to be high'; sufformative *ḥ*[192] in صُمَادِحٌ, 'hard, strong,' from مُصَوْمَدٌ, 'thick, rough'; sufformative *'ain* in بَرْكَعَ, 'to sink on the knee' (camel), from بَرَكَ, 'to kneel';[192] sibilant sufformatives in خَلْبَسَ, 'to deceive with soft words,' from خَلَبَ,[193] 'to deceive,' and جَرْفَسَ, 'to take away everything,' from جَرَفَ, 'to remove everything'; labial sufformatives[193] in جَرْدَبَ, 'to eat like a glutton,' from جَرَدَ, 'to eat up everything,' زَرْدَبَ, 'to strangle,' from زَرَدَ, 'to swallow,' and زَحْلَفَ, 'to push back' from زَحَلَ, 'to withdraw'; while an occasional

[188] Fraenkel (*op. cit.*, p. 49) considers the *l* of diminutive force and Brockelmann (*Grundriß*, p. 402) thinks that it is borrowed from the Indo-Germanic; but the many examples in all the dialects warrant no such general deductions.

[189] *loc. cit.*

[190] Fraenkel (*op. cit.*, p. 46) notes that practically all derivatives in *m* are of substantive character.

[191] Wright, *loc. cit.*

[192] Dietrich, *op. cit.*, p. 318.

[193] Wright and Dietrich, *loc. cit.*

palatal is seen in زَحْلَقَ, 'to roll down, slip,' which is also derived from زَحَلَ, 'to move back, withdraw.'

F. Modern Arabic. Turning to the modern Arabic dialects, that of Egypt has the very curious form لَخْبَطَ, 'to mix, confuse,' derived from خبط, 'to knock,' with a preformative *l*, for, although لَخْبَطَ is usually considered to be a metathesis for *خَلْبَطَ,[194] a preformative *l* is quite as possible as a preformative *n* or *m*.[195] In fact, preformative *l* occurs frequently in proto-Semitic, as is clear from a study of the root-determinative in the triliteral verb.[196] Šaf'al derivatives in Egyptian Arabic are شَقْلَبَ, 'to overturn,' from قلب, 'to upset'; and شَعْلَقَ, 'to suspend,' from عَلَّقَ, 'to hang up'; and there are also peculiar maf'als derived from nouns in *m*, such as مَسْمَرَ, 'to nail,' from مُسْمَار, 'nail'; and مَسْطَرَ, 'to rule,' from مَسْطَرَة, 'ruler.' Forms with infixed *'ain* include قَشْعَرَ, 'to make the flesh creep,' from قِشر, 'skin,' and شَعْبَطَ, 'to climb,' from شبط, 'to take hold of.' Par'al, pan'al, pal'al, and pam'al forms abound, these including هَرْجَمَ or هَنْجَمَ,[197] 'to run, burst in,' from هجم, 'to rush at, attack'; كَرْبَسَ, 'to push down,' from كبس, 'to press'; سَلْطَحَ, 'to be wide and flat,' from سطح, 'to make flat'; and شَرْمَطَ, 'to tear to pieces,' from شرط, 'to tear' (a pa'mal form).[198]

Cherbonneau[199] has given a complete list of quadriliterals

[194] Spitta-Bey, *Gram.*, p. 191.

[195] For an apparent case of preformative *r* in Hebrew, cf. רְטַפֵּשׁ above, note 146.

[196] See examples p. 97.

[197] But Brockelmann (*op. cit.*, p. 510) thinks that this is a loan-word from the Persian *hangâma*, 'concourse.'

[198] For complete lists, see Spitta-Bey; *loc. cit.*, and Vollers, *Modern Egyptian Arabic*, pp. 33—34.

[199] *JA.*, V. xviii. 375—384.

for Algerine Arabic. Besides pan'el par'el, and pal'el forms, of which there are numerous examples, such as خنشب, 'to sprout forth in foliage' (cf. خشب, 'wood'), خنطل, 'to work with energy,' دربل, 'to be in tatters,' طلمس, 'to prop up,' etc., there are many others which have an infixed guttural أ, or semi-vowel و or ى, such as فوضل, 'to be curious,' سيفط, 'to send an envoy,' خلوط, 'to turn things topsy-turvy,' etc. In the dialect of Omân, Vollers[200] considers the pluriliterals *tdelhem* and *selheb* to be derived from دهم (pal'el) and لهب (saf'el) respectively.

G. Ge'ez. The pluriliterals in Ge'ez have been discussed at length by Stade in his monograph *Ueber den Ursprung der mehrlautigen Thatwörter der Ge'ezsprache* (Leipzig 1871); and a few examples will suffice to show that the formations in this dialect were exactly similar to those in the other Semitic languages. Thus, the šaf'al formations include ሰንቀወ፡, 'to play the flute,' from ነቀወ፡, 'to play,' and አሰደዐዘ፡, 'to harden one's heart,' from ዐዘ፡, 'to be strong, hardy.' 'Af'al formations occur as new stems only when the አ has been dissimilated, since otherwise the causative connotation would still cling to the root. Thus, a ḥaf'al form is ሐንፈጸ፡, 'to winnow,' from ነፍጸ፡, 'to diffuse, scatter'; an 'af'al form occurs in ዐንዘረ፡, 'to play the organ.' Quadriliterals derived from reflexive stems include ደንገፀ፡, 'to strike, wound,' and ተንበለ፡, 'to speak for one, act as ambassador.' Maf'al forms[201] exist here as in Neo-Syriac and Modern Arabic, although some of them can no longer be traced to substantives in *m*. Such are አመንዘዘ፡, 'to insult,' ማህረከ፡, 'to make captive,' etc. Stade finds twenty-two pan'al forms, but only one pam'al form; while the par'als

[200] *ZDMG.*, xlix. 506.
[201] Stade, *op. cit.*, pp. 20; 43 ff.

are six in number. These do not present any special peculiarities, and are accordingly omitted. Derivatives from substantives in final *t* are ተጋህረተ፡, 'to appear eager,' and ሕብረተ፡, 'to polish.' Sufformative *s* is found in ዘልገሰ፡, 'to affect with scab,' and sufformative *'âin* in ኧመሥከዐ፡, 'to chew the cud.' A sufformative *w* or *y* sometimes gives a causative meaning to the quadriliteral, besides being a means of deriving verbs directly from nouns, although many of this type of derivative verbs also denote entrance into a state, such as መጽሰወ፡, 'to become weak, languish,' ሰርገወ፡, 'to weave, decorate,' ሀወ·ሰየ፡, 'to deride,' and many others.[201]

A broad and comprehensive view of the general development of the pluriliteral from an older triliteral stage has thus been obtained, and it has become clear that both primary and secondary pluriliterals are, directly or indirectly, derived stems from a triliteral base. It is true that many of these theoretically assumed stems were already extinct at an early period, but their quondam existence is proved by the fact that all the individual Semitic languages have retained many forms composed of the older elements in question—*e. g.*, the common terms for spider, scorpion, rat, etc.—which have served as models for subsequent analogies. Many other stems had a formal survival in the later language, although they lost their original meaning and assumed a somewhat different connotation in the course of time. But etymology is unaffected by semasiology, as is shown—if proof were needed—by the secondary denominative formations, in which an historically existing stem-prefix (such as *m* or *t*) loses its original force, and either becomes a pure radical indistinguishable from other

[201] Stade, *op. cit.*, pp. 20; 43ff.

primary radicals, or assumes a new causative force as in the taf'el and maf'el forms of the North Semitic group.[202]

We have also seen that the consonants most active as formatives were the liquids, the gutturals, and the semi-vowels *y* or *w*, any one of which occurs either as a prefix or a suffix to the root, or as an infix after either of the first two radicals. The labials *b* and *p*, the dental *d*, and the occasional palatal *q* are found only as sufformatives to the triliteral stem. The sibilants *š* and *s* are constantly used as preformatives or sufformatives.[203] The dental *t* is also used commonly as a preformative, and occasionally as an infix; while in the later language it becomes also a sufformative, this use being developed from the former substantive function of *t* as the abstract ending.

It would accordingly appear that the Semitic languages had first only a limited stock of subordinate elements, which consisted of liquids, gutturals, semi-vowels, labials, sibilants, and occasional palatals, or dentals; that these elements were used at various periods for different purposes, often receiving a function diametrically opposed to their original force; that eventually a small number were retained simply for stem-formation; and that, in its selection of the formative elements, each language asserted its own individuality, and chose for itself those formative elements which were most suited to its genius. A few examples will suffice to show that this is not mere theory. Thus, the *m* as a preformative element is used in Hebrew to characterize the participle; in Aramaic and Syriac to mark the infinitive; sometimes it connotes place; and sometimes means;[204] while in the later dialects

[202] For examples of causative taf'els see p. 40; for maf'els see p. 45.

[203] An instance of infixed *š* is seen in בַּשְׁקֵר, see p. 43.

[204] Cf. Barth, *N. B.*, p. 233—236.

it is a causative preformative. In all these cases the preformative *m* appears, despite its differentiation of meaning, to have been originally one and the same, for it seems, on the whole, less plausible to assume that proto-Semitic possessed a double or triple set of *m* preformatives to denote different functions. The same statement seems also to hold true for the causative elements *'alef* and *s*, and for the reflexive elements *t* and *n*.

ii

Development by Preformatives. The development of nominal and verbal stems by preformatives is universal in Semitic speech. Although Barth[205] is somewhat sceptical about deriving the regular nominal forms with preformatives in *t* and *m* from taf'el and maf'el conjugations, and although he clearly shows that the preformative *t* has assumed an intensive meaning in the formation of nouns, and a causative meaning in North Semitic, yet the etymology of such preformatives can scarcely be said to depend on connotations which they have acquired in the long course of their development. There is no need to assume, with Wright,[206] a spurious taf'el causative to explain the later causative function of the *t*, or to base it (as Stade[207] does) upon the two unusual forms תִּרְגַּלְתִּי and תִּתַּחֲרֶה which have been explained somewhat differently above (p. 40). It seems more probable to hold, with Praetorius,[208] that, whatever the later function of this preformative *t* may have been, it originated etymologically in a reflexive stem, the existence of which is rendered certain by its occurrence throughout

[205] *op. cit.*, pp. XXI, 233, 279.
[206] *op. cit.*, i. pp. 216—217.
[207] *Lehrbuch*, p. 122.
[208] *BA.*, i. 38.

the Semitic dialects. Moreover, the objections of Barth,[209] based upon the fact that the reflexive prefix in Hebrew and Aramaic is always *hiṯ* and *'eṯ* respectively, are invalid when we assume, with Praetorius,[210] that the intensive and causative forms with preformative *t* may be traced back to an original reflexive infinitive form, which is universally recognized to have had the form *ta*.[211]

A similar statement holds true with regard to the preformative (') , except where it is merely prostethic.[212] Although Barth justly remarks[213] that "Eine gemeinsame Bedeutung, welche durch das א-Präfix den Nomina beigebracht wäre, ist nicht mehr erkennbar," yet we are fully justified in considering such formations as due to a tendency transmitted from the older language, to form af'el derivatives, many of which have retained their original causative character, while others have entirely surrendered it, and a few have replaced the causative by other functions. Thus, Arabic has utilized this preformative for intensive purposes, in its elative forms;[213] and Hebrew has lost the causative force of the (');[214] but Aramaic, retaining the causative force of the (') , still gives to *'alef* formations their original force.[215] This is also the case with stems formed

[209] *op. cit.*, pp. 275—276.

[210] *loc. cit.*, "Ich kann in diesen Nominalformen ganz alte zum Reflexiv des Grundstammes gehörige Infinitive sehen, welche schon früh isoliert und nicht mehr richtig begriffen wurden."

[211] See Brockelmann, *op. cit.*, p. 528.

[212] Cf. König, *Lehrgeb.*, ii. 401.

[213] Barth *op. cit.*, p. 221.

[214] But a possible exception is אַזְכָּרָה, "memorial offering" (Barth, *op. cit.*, p. 90).

[215] There are few instances in Aramaic of forms with an original preformative (') (Barth, *op. cit.*, p. 223), all other cases are evident causative infinitive formations (cf. אַכְשָׁרוּתָא, 'rectification,' אַנְחָתָא, 'the act of setting down,' אַשְׁכָּבְתָא, 'the act of lying down,' etc.).

by preformative *h* or *š*, most of which are generally classed as causative formations. In fact, the causative preformatives arrange themselves in a series of related sounds, *š—h—*(ʾ),[216] to which we may add, with Dietrich,[217] (ʿ) and *ḥ*. It is almost certain that the primitive Semitic language, with the strong tendency towards differentiation of sound to denote differentiation of meaning,[218] had developed all these preformative elements as causative affixes, and had given each one a slight variation in meaning. Brockelmann[219] expresses similar opinion: "Da sich die drei Präfixe (*š—h—*(ʾ)) nicht auf eine Grundform zurückführen lassen, so ist anzunehmen, daß sie schon im Ursemitischen nebeneinander bestanden, wie im Äthiopischen, Arabischen und Aramäischen noch *ʾa* und *ša*, *sa* nebeneinander vorkommen, indem sich vielleicht die verschiedenen Wendungen des Kausativbegriffs auf die verschiedenen Formen verteilten."

As Brockelmann has correctly noted,[219] this position must be adopted in view of the fact that Hebrew has retained the *h* causative, Assyrian the *š* causative, Arabic the (ʾ) causative in the active, and the *s* causative in the reflexive, and Ethiopic both the *s* and the (ʾ), while each of these dialects still exhibits some traces of all the original causative forms, though they were no longer construed as such. No direct evidence, beyond what has been shown, exists to prove that the preformatives (ʿ) and *ḥ* fall under

[216] Cf. Stade, *op. cit.*, p. 122; König, *Neue Studien über Schrift, Aussprache und allgemeine Formenlehre des Äthiopischen*, pp. 77—78.

[217] *op. cit.*, p. 283. Stade (*Ursprung d. Geʿez*, p. 37) believes that the differentiation took place after the causative (ʾ) lost its force; but, since *h* and *š* existed from the very start as differentiated forms of the causative, the (ʿ) and *ḥ* may, therefore, also be considered original variants.

[218] Cf. above pp. 30—34.

[219] *op. cit.*, p. 521 and Holzhey, *ZDMG.*, lvii. 755.

the causative category. Fraenkel[220] has shown that in the pluriliteral formations the (ʿ) was doubtless a differentiation for (ʾ). It may be equally true that the process of differentiation took place at a relatively late period (as Stade believes),[221] and that it was due largely to the loss of the causative force in the (ʾ); but the retention of such a preformative element in many common forms in all the Semitic languages (cf. עַכְבָּר, 'rat,' p. 41) renders the opposite hypothesis preferable. Many languages connect this (ʿ) very closely with the (ʾ). Instances of this in the Ethiopic denominatives have already been cited (p. 52); and it is also interesting to note that in Mandæan[222] פ"א and פ"ע verbs fall practically under one and the same category. The same statement holds true for *ḥ* as a differentiation from *h*.

A similar theory may be advanced for the origin of the preformatives *n* and *m*, disregarding, for the moment, all their later connotations. There is no doubt that, in the examples already cited,[223] the quadriliterals with preformative *n* were developed from reflexive stems. The well-known nominal forms with preformative *m*[224] may likewise descend from an original maf'el stem, the existence of which is presupposed by the extensive use of this preformative in the forms in question. We should naturally expect to find *l* and *r*—as differentiations of *n*, *m*—also among the preformatives, but there are very few extant quadriliterals[225] compounded of these preformative elements, although the

[220] *op. cit.*, p. 1ff.

[221] *loc. cit.*, see note 217.

[222] Nöldeke, *Mand. Gram.*, p. 241.

[223] Cf. נִשְׁתְּוָן p. 43 and تَخْرَبَ p. 47; see Levias, *Aram. Gram.*, p. 162.

[224] Barth, *op. cit.*, p. 233ff.

[225] Cf. above note 146 and p. 51.

existence of *l* and *r*, as preformatives, is rendered certain by their frequent occurrence as pre-determinatives in the present triliteral verb.[226] Together with the maf'el stem, they may best be classed as kindred stems of the reflexive, or *n* stem, the original force of which has been lost; for just as the *n* of the reflexive stem is to be derived from an original pronominal element *n*, the *m* in the nominal formations has long been associated with a pronominal *m*;[227] and the *l* and *r* would, in like manner, find their origin in pronominal elements in *l* and *r*, the existence of which is beyond all question. It has already been shown (p. 33) that these four pronominal stems may be related to each other.

Another interesting survival from an early period is the preformative *y*, which is still used for some curious noun-formations. According to Barth,[228] this *y* was rapidly disappearing when the proto-Semites were separating into their historic stocks, but its use,[229] as still surviving in the formation of nouns, was evidently to give a substantive character to various adjectival and participial forms. In other words, the *y* was employed to form denominatives, and this use seems to agree with its character as a determinative in the triliteral. Barth has treated at length[230] both the nominal forms with preformative *m* and those with preformative *y*, and as the phenomena of their development are universally known, they may, in view of Barth's discussion, be omitted here.[231]

226 See pp. 97—105 for examples.

227 Barth, *loc. cit.*, Brockelmann, *op. cit.*, pp. 316—317.

228 *op. cit.*, p. 226.

229 *op. cit.*, p. 229.

230 *op. cit.*, pp. 229—233.

231 There are no surviving examples of pluriliterals with preformative *w*, which may have passed over into *y* at an early period; but the triliteral has retained *w* as a pre-determinative (see pp. 81—84).

The preformatives are thus seen to possess a fairly definite, though remote, relationship to each other. The sibilants and gutturals are to be traced to causative stems; the dental *t* and liquid *n* to reflexive stems; the liquids *m*, *l*, and *r* are to be connected etymologically with the reflexive *n*, and preformative *y* may be considered to be a denominative stem.

iii

Infixation in Semitic Speech. It is well known that the preformative elements in Semitic stems often appear in the interior of the word as infixes, instead of as prefixes, such infixation being seen in the VIII form of the Arabic verb, where the reflexive element *t* is placed after the first radical. This phenomenon is found on a much larger scale in Assyrian,[232] where a similar infixation occurs in all the *t* stems, so that the reflexive forms are the ifte'al, ifta'al, ištaf'al, and ittaf'al (for intaf'al), while the reflexive *n* is similarly treated in the form iftane'al. In the Aramaic of the Babylonian Talmud, Levias has noted[233] that infixation of *š* and *t* takes place in the occasional conjugations paš'el, pa'tel, and iṯ-pa'tal. In Hebrew, infixation of *t* occurs only when it conflicts with a sibilant which, owing to the difficulty of pronouncing the combinations *tš*, *tz*, and *ṭṣ*, compels the dental to undergo transposition, with resultant *št*, *zd*, and *ṣṭ*. This metathesis is universal in Semitic,[233a] and its constant occurrence may have been the cause, through formal analogy, of many other cases of metathesis of stem-elements. It is possible, for example, that the *n* of the pan'el forms or *m* of the pam'el originated in such a metathesis.

The chief objection to the hypothesis here advanced

[232] Delitzsch, *Assyr. Gram.*, pp. 231—236.

[233] *op. cit.*, p. 163.

[233a] Cf. note 128, and see Huizinga, *Analogy in Sem. Lang's* p. 25.

would be that all the quadriliterals with a liquid or guttural infix have thus far been explained on purely phonetic grounds. It has, accordingly, often been maintained[234] that, since these infixed forms generally stand side by side with cognate intensive stems, they are, therefore, dissimilated intensives,[235] particularly as many infixed formations have an intensive force in the living languages. There are, however, many difficulties in the way of such an explanation. It is difficult, in the first place, to account for the infixation of a nasal or liquid after the second radical, as so often happens in Arabic.[236] In the second place, the guttural infixes cannot be explained adequately by the theory of consonant dissimilation, and demand a more tangible exposition; neither can they satisfactorily be accounted for by other well-known phonetic phenomena.[237] In the third place, no traces of an older gemination can now be found side by side with many of these so-called dissimilated forms, and this fact again raises the problem, as Grimme has rightly seen,[238] of why so few of the alleged geminated forms were resolved into a liquid or nasal. It is difficult, however, to accept Grimme's solution[238] that the quadriliterals with a liquid or guttural infix originate in a primitive labialized guttural, for the forms that show no guttural whatsoever are as numerous as those which have a guttural.

The origin of such infixation must be sought entirely outside of the sphere of phonetic phenomena, for the tri-

234 Cf. Brockelmann, *op. cit.*, p. 510.

235 So Ryžička, "*Berührungsdissimilation*" in *BA.*, VI. iv. 2 ff.

236 The theory of dissimilation is inadequate to account for all the cases involved, and presupposes an interchange of wholly unrelated sounds.

237 Cf. Fraenkel, *op. cit.*, pp. 27, 35, and note 185.

238 *ZDMG.*, lv. 440 ff.

literal is equally characterized by an infixation of liquid and guttural elements, which cannot, contrary to the opinion of Lagarde,[239] be the result of the resolution of an intensive gemination. We must, in short, return to the first view and must ascribe the origin of the infixations in question to a former relationship of stem. It is possible, and even certain, that when consciousness of this original relationship of stem had been lost, and had been replaced by some other relationship (*e. g.* an intensive relationship), many new analogical formations arose,[240] a portion of which may have been due largely to phonetic demand. As soon as the infixed *n* of the pan'el, the infixed *m* of the pam'el, and the kindred forms with infixed *l* and *r*, *i. e.* the pal'el and par'el, are held to be original preformative elements which have undergone metathesis in their course of development, then the objections which have been noted above are satisfactorily answered. Since, in the first place, *n*, *m*, *l*, and *r* were movable elements, they might readily be infixed after the second radical, as is the case in Arabic (p. 48) and Neo-Syriac (p. 46). In the second place, the origin of the guttural infix must be different from that of the liquid infix. And, finally, the reason for the paucity of forms with infixed elements lies in the fact that this process of stem-formation was short-lived.[241]

[239] *Symmicta*, i. 125 ff.

[240] Cf. צַלְהֵב, note 150. The infixation of the *l*, as well as the change in meaning ("to burn"), is due to the influence of שַׁלְהֶבֶת.

[241] In Indo-Germanic a similar problem occurs,—the question of the origin of the so-called nasal-infix. Petersen (*IF.*, xxiv. 38) says: "Wahrscheinlich haben wir es in der Infigierung mit einem Stück uralter vorindogermanischer Sprachgeschichte zu tun." Windisch (*Kuhn's Zeitschrift*, xxi. 407) and Hirt (*Indogermanischer Ablaut*, Straßburg, 1900, p. 138) also believe it is an older surviving feature of Indo-Germanic. Persson (*Wurzelerweiterung und Wurzelvariation*,

The reason for the presence of the infix in forms closely allied to the intensive stem is the reverse of the one generally adopted. Formal analogy was a potent factor, for it must be borne in mind that all quadriliterals are cast into the same vocalic mould (פַּרְעַל, שַׁפְעַל, قَنْتَلَ, أَقْتَلَ, etc.), and hence it is not strange that a geminated form קִטֵּל (= קָטַל) or قَتَّلَ (= قَتَلَ) should be associated with a par'el or pam'el form; in other words, the gemination would be felt as a sort of compensatory contraction of such an infixed form (قَنْتَلَ into قَتَّلَ)—a conclusion, which is diametrically the reverse of the current explanation. After the connection between geminated and infixed stems had once been established, later usage would tend to bring about the opposite process as well, and the gemination would be resolved back, by false analogy, into par'el, pam'el, pan'el, and pal'el, as the case might be. The hypothesis advanced by the present writer is, therefore, that the forms with infixed liquids or nasals are survivals from a period when infixation was an extensive method of stem-formation, but that, in the course of development, they became attached to an intensive stem to which they are still felt to be related. Finally, the gutturals clearly prove that analogy was the main cause for the attachment of the forms with infixed elements to the intensive stem.

This leads us to inquire concerning the nature of the infixed gutturals. It can scarcely be supposed that the guttural infixes were transposed, like the liquids and nasals, from the beginning to the interior of the stem, thus becoming infixes instead of preformatives, for the gutturals are too weak phonetically to survive such a metathesis, nor

p. 152) considers the infix, however, to be a nasal suffix, to which the determinative is added. Brugmann takes it as due to metathesis – as in πήγνυμι: *pango* (*Grundriß*, i. 347, 865 ff.).

does any similar metathesis occur frequently in any Semitic dialect. It seems most probable that the gutturals can best be explained as outgrowths of the III[rd] Arabic stem of effort—a purposive stem.[242] A فَأْعَلَ form is a development from an original فَاعَلَ, which then becomes differentiated into فَهْعَلَ or فَعْعَلَ. A different line of development from فَأْعَلَ may be فَيْعَلَ or فَوْعَلَ, [243] thus forming the origin of the forms with an infixed *y* or *w*. When the original purposive force of these forms was lost, they naturally came to be regarded as intensives, especially as analogy connected فَهْعَلَ or فَعْعَلَ with فَعْعَلَ (= فَعَّلَ). This explanation seems to be more consistent than the older view. The following conclusions have, accordingly, been reached: the liquid infixes were originally identical in function with the liquid preformatives of the reflexive and kindred stems; while the infixed gutturals are developments from the purposive stem.

iv

Development by Sufformatives. The origin of the sufformative is lost in antiquity. In the living languages, only a few verbal stems are developed by means of sufformatives, and these few are invariably secondary stems. All the suf-

[242] The existence of this stem independently from the intensive of which it is usually held to be a further development (Brockelmann, *Grundriß*, p. 512; Zimmern, *Vergleichende Grammatik*, p. 87) is made certain by the remains still extant in North Semitic and its constant occurrence in South Semitic as a purposive stem. The purposive function of the stem is considered by the present writer as an original function and not as a late development.

[243] Cf. Brockelmann, *loc. cit.*; Zimmern, *loc. cit.*, and *ZDMG.*, xxv. 681. Similarly Fraenkel shows that pa'hal forms (فَعْهَلَ) are developed from an XI[th] form of the verb, اِفْعَالَّ; *e. g.* اِتْمَهَلَّ, 'to be even, long,' as compared with اِتْمَالَّ (*op. cit.*, p. 38).

formatives seem to indicate primarily qualitative, adjectival, and similar relations of the substantives, although this fact does not preclude their use as verbal formatives. The original identity of nominal and verbal formatives has been presupposed throughout, for it is generally recognized that the final distinction between the substantive and the verb in the initial stages of language can scarcely be drawn with strictness.[244] In the case of the sufformative, there is no rigid criterion to determine its original function, as there is in the case of the preformative and the infix; and since we can scarcely suppose that the adjectival and qualitative connotations later assumed by the sufformatives were primitive, they are best left unclassified until more light shall have been cast upon their history. There are, however, two exceptions to this rule—the sufformatives *y* and *w*, which seem to be common elements used everywhere to form denominative stems. When the forms ܒܠܒܠ, 'to be confused,' and ܒܝܥ, 'to make strange,' in Syriac, are compared with መጽለወ፡, 'to become weak,' and ሀወ·ለየ፡, 'to deride,' in Ge'ez, the *y* and *w* appear to be verbalizing sufformatives, the function of which is to convert a substantive into a stative verb; and it is well known that the *y* also changes a verbal or a noun into an adjective.[245] When we recall the results of our discussion of the ל״ה verbs (p. 11) where the ה was seen to possess a denominative force in many verbs, the denominative function of these sufformatives becomes still more evident. Finally, if the fact is borne in mind that the preformative *y* also originally functioned as a denominative agent (p. 59), we are fully justified in

[244] Cf. Wright, *Comp. Gram.*, p. 164; Müller, *BA.*, ii. 368; Philippi, *Morgenl. Forschngn* and Toy, *Transactions of the Americ. Philological Ass'n.* 1877, 18 ff.

[245] Cf. Brockelmann, *op. cit.*, p. 397; Barth, *NB.*, p. 354.

classing stems doveloped by the sufformative *y* and *w* as denominative or better stative stems. In fact, the force of many of the derivatives formed by the sufformatives *y* and *w* is intransitive or stative in character, so that frequently the meaning of such new stems can best be rendered by adding 'to be in a state of' to the former meaning of the root.

It is to be noted that the consonants used as sufformatives are the same as those employed as preformatives or as infixes—the gutturals, the liquids, the sibilants *š* and *s*, and the semivowels *y* and *w*. In addition to these, the labials *b* and *p*, and occasionally the dentals *d* and *t*, and the palatal *q*, function as sufformatives. Semitic speech had evidently developed these consonants as formative-elements at an early period, and it is very probable that all these formatives are derived from demonstrative roots. The liquids, gutturals, sibilants, and dentals function largely in Semitic as demonstratives;[246] and even the labial *p*, may also have been demonstrative in origin (cf. Arabic *fa*, 'then,' Hebrew *pô*, 'here,' etc.).[247]

V

The Triliteral a Developed Stem. In our study of the pluriliterals, as well as in our brief discussion of the denominative triliteral, we have repeatedly found that a subordinate formative element is incorporated in a pure root and indissolubly amalgamated with it. A sweeping application of the principle here involved accordingly suggests itself, and since the biliteral root forms the base of the triliteral, it would appear that triliteralism has arisen from a similar incorporation of older stem elements in a

[246] Brockelmann, *op. cit.*, pp. 316—324.

[247] Brockelmann, *op. cit.*, pp. 323—324. Other letters of the alphabet which are sometimes regarded as sufformatives can usually be explained as due to the interaction of stems phonetically allied.

biliteral root. This hypothesis is confirmed by a close study of the so-called determinative in the triliteral root; and such an investigation clearly shows that the elements employed as determinatives in the triliteral are identical with those which serve as pluriliteral formatives. Here, again, the determinatives consist of the liquids, the gutturals, the sibilants *š* and *s*, the dental *t* and, as post-determinatives, *b*, *p*, and an occasional *d*, or *q*; while the gutturals, the liquids, the semi-vowels *y* and *w*, and the dental *t* play an important rôle as infixes. Most noteworthy of all is the fact that a study of the semasiological value of each triliteral reveals the original connotations of many of these stem-formatives.

The theory that the triliteral root is a developed stem is not altogether new. Omitting the occasional conjectures of earlier biliteralists,[248] the theory was fully postulated by the Hebrew grammarian, Solomon Pappenheim, in the introduction to his book on synonyms יְרִיעוֹת שְׁלֹמֹה, published at Dhyrenfurth in 1784, in which he conclusively identified the formative elements with the root-determinative. He even created a terminology of his own, calling the preformative *n*, the nif'alizing *nûn*, and terming the sufformative *n*, the adjectival *nûn*.[249] A similar conclusion was reached by Lagarde in a pamphlet published in England in 1853, a summary of which was reprinted in his *Symmicta*, Goettingen, 1877, i. 121—128. Lagarde classifies the triliteral stems according to *a*) formation by a preformative (’),

[248] Judah Aryeh ben Zebi Hirsch of Carpentras has put together in his etymological dictionary (אֲהֲלֵי יְהוּדָה) a number of related biliteral forms; but his theory of root-composition, similar to the theory later expounded by Leguest (note 124), diminishes the value of his work.

[249] See also Pappenheim חֶשֶׁק שְׁלֹמֹה, which is the first part of a projected biliteral dictionary published at Breslau 1802 (introduction).

h, š, s, t (which assumed a causative force); *b*) formation by preformative *n*, having a middle force; *c*) development into a reflexive stem with infixed *t*; *d*) compensation for a lost gemination by an infixed guttural or liquid, thus giving rise to an intensive stem; and *e*) formation by sufformatives analogous to certain well-known Sanskrit conjugations.[250] His main sources of error are this curious identification of Indo-Germanic and Semitic phenomena, and a still more remarkable postulation of the relation of various groups of Semitic sounds. More recently both Stade[251] and Mez,[252] in their researches in Hebrew and Arabic respectively, have found themselves obliged to regard a large number of triliteral forms with very evident formative elements as secondary triliteral denominatives from various well-known conjugations. Such an explanation, however, is scarcely correct; for, on this hypothesis nearly all the פ״ו, פ״נ, פ״א, or פ״ש verbs would be denominative triliterals.

More than one scholar has occasionally felt that the solution of the biliteral theory must be sought in a study of the formative elements of the triliteral stem; but each one has hesitated actually to put this conjecture to the test. König, for instance, cautiously says:[253] Es ist ja naturgemäß, daß zur Modificirung des in der Wurzel ausgeprägten Begriffes in erster Linie auch die Laute formalen Sinnes verwendet wurden. Daher muß eine weitreichende Identität von Wurzeldeterminativen und Stammbildungs-Exponenten sich zeigen: Insbesonders aber läßt sich nicht

[250] Thus, the fourth Sanskrit conjugation, which adds *ya*, is analogous to the biliteral root with sufformatives א, ה, ע, י, ו, ח and ק; the fifth Sanskrit conjugation, which adds *nu*, is analogous to roots with sufformatives ל, מ, נ, and ר, etc. (*op. cit.*, p. 126).

[251] Cf. *Lehrbuch*, pp. 112—113.

[252] *Orientalische Studien, Theodor Nöldeke . . . gewidmet*, i. 249—254.

[253] *Lehrgeb.*, ii. 373—374.

verkennen, daß ein vorausgehendes Wurzeldeterminativ *t* mit dem Stammpräfix des einen Reflexivstammes zusammenhängt." Nöldeke writes,[254] in similar fashion: "Man könnte ja freilich daran denken, daß نَهَبَ, 'rauben,' eigentlich 'sich geben lassen' wäre, als Reflexiv zu وَهَبَ 'geben,' oder daß نول, نيل, 'erreichen,' in ähnlicher Weise zu أول, 'hingehen, geraten' gehörte, aber zu einer solchen Annahme habe ich nicht den Mut, obgleich sich in נקם, نقم, نعم, das Dillmann wohl mit Recht zu dem gleichbedeutenden ተቀየመ: gestellt hat, eine gute Analogie böte." A thorough study of the phenomena involved conclusively demonstrates the correctness of the theory that the triliteral verb is a development from a biliteral base. The determinatives can very readily be identified with many of the still surviving stem affixes; and in this connection it is interesting to note that Indo-Germanic scholarship has since reached similar conclusions, without having evidence as substantial and as convincing as Semitic philology possesses. Persson believes[255] that the origin of the Indo-Germanic root-determinative is to be sought in the adoption of formative stem elements as integral parts of the root; and that determinative elements are developed in a similar fashion, as is plainly seen in the Greek κλι-νω, which is developed into the new stem *κλιν-, and in the Latin *pa-sco*, which develops into the new stem **pasc* (cf. *pastum* for **pasctum*). He recognizes further, the identity between verbal and nominal suffixes; and believes

[254] *Neue Beiträge*, p. 180.

[255] *Wurzelerweiterung und Wurzelvariation*, p. 203 ff. Johansson, *Beiträge zur griechischen Sprachkunde*. p. 92, also maintains the identity of the root-determinative with the nominal suffixes. Brugmann (*Kurze Vergleichende Grammatik*, p. 297) suggests that at least some of the Indo-Germanic root-determinatives may originally have been independent verbs.

that the Indo-Germanic determinative *p* is present in the Sanskrit causative *payâmi*; that the root-determinative *s* is to be associated with the *s* of the aorist and future, or with the kindred desiderative *s*; and that the determinatives *y* and *w* are identical with the nominal and adjectival *y* and *w*,[256] etc.

If this be true, the triliteral stem may readily be classified according to the character of the elements which it contains, the method of classification having already been determined by a study of the formative elements of the pluriliteral, which are divided into six classes. The triliterals, in like manner, comprise the following six classes of stems:

I. Stative Stems: *a*) With ו or י prefixed (פ״י, פ״ו).
b) With ו or י suffixed (ל״י, ל״ו).

II. Intensive Stems: With the middle consonant doubled (ע״ע).

III. Purposive Stems: *a*) With א, ה, ע, infixed.
b) With ו or י infixed (ע״י, ע״ו).

IV. Causative Stems: *a*) With ש prefixed.
b) With א or ה prefixed.
c) Kindred stems with ע or ח prefixed.

V. Reflexive Stems: *a*) Direct reflexives with ת prefixed or infixed.
b) Indirect reflexive with נ prefixed or infixed.
c) Kindred stems with ל, ר, מ prefixed or infixed.

[256] Cf. Möller, *Vergleichendes indogermanisch-semitisches Wörterbuch*, p. xiv.

VI. Unclassified Stems: *a*) With liquid suffixes, ל, מ, נ or ר.
b) With guttural suffixes, א, ה, ח or ע.
c) With sibilant suffixes, שׂ or ס.
d) With labial suffixes, פ or ב.
e) With occasional dental suffixes, ד or ת.
f) With occasional palatal suffix, ק (rarely כ).

In the attempt to determine the original connotation of the Semitic root-determinatives, the method employed must be rigidly inductive, and the primitive meaning must be sought in the earliest recorded signification of each Semitic root. This is, however, a course beset with many difficulties, for analogy has been throughout a potent factor, and has frequently combined elements which were originally opposed to each other. Many formative elements have, therefore, modified their first signification, have often assumed a different shade of meaning, and have frequently lost their original force and become merged with other elements of opposite connotation, as has been the case with the reflexive element *t* and preformative *m* (cf. p. 55). A similar process has taken place, as Delitzsch has noted,[257] with regard to the reflexive *n* in Assyrian, where this element generally loses its reflexive force and becomes a mere passive; very often it is attenuated into a stative prefix; and in the case of a few verbs cited by Delitzsch,[257] it has assumed an active meaning. Etymological difficulties arising from such semasiological complications are also found in the case of the causative elements; and this is, in the main, the reason for the extreme confusion which exists among

[257] *Assyrian Grammar*, pp. 234—235.

all forms of the weak verb, for the reflexive *n* stem, tending to assume the function of the stative *y* and *w* stems, would eventually be merged with them in meaning in many forms. In like manner, the loss of the intensive force of ע״ע verbs and the disappearance of the special force of ע״ו verbs would tend to bring them into proximity with the other two classes. This confusion seems already to have existed when the various Semitic stocks entered upon their independent existence; the determinatives in all forms of the weak verb had become merged in meaning, and whatever connotations they may still subconsciously have preserved may be termed, to use a mathematical expression, the least common multiple of all their original meanings.

It must also be borne in mind that primitive ideas are generally concrete, and that an abstract idea is secondary, in that it is often based on some objective aspect involved in the expression of the abstract idea, as when anger is denoted by "a reddening of the face," displeasure, by "a falling of the countenance,"[258] etc. On the whole, meanings should never be forced by broad generalizations; all that can be posited must be based on the actual connotations found in the best texts.

A word may be devoted, in passing, to the problem whether the Semitic biliteral was originally monosyllabic or disyllabic. Though no definite answer can as yet safely be given to this question, it seems, on the whole, very plausible to regard the present monosyllabic biliteral as developed from an older dissyllabic stem through the loss of an original terminal syllable, so that the base *sab* probably represents an original **saba*,[259] just as *qatal* was

[258] Cf. וַיִּחַר אַפּוֹ (Genesis xxxix. 19) and וַיִּפְּלוּ פָּנָיו (Genesis iv. 5).

[259] So Möller, *op. cit.*, p. viii.

primarily *qatala.*[260] To avoid all uncertainty,[261] however, the biliteral base will be cited without any vocalic character whatever, as √קם: √*qm*, √קץ: √*qṣ*, etc.

[260] Cf. Lagarde, *Abhandlungen K. Gesellschaft der Wissenschaften zu Göttingen*, xxxv. 10.

[261] The Indo-Germanic root was usually dissyllabic. The determinatives were added to these dissyllabic bases—*e. g.* **ore*, 'to move' (Latin *orior*), **ore-d*, 'to disurb' (Sanskrit *ard*), **ore-s*, 'to flow' (Sanskrit *arṣ*). Of course there were also monosyllabic, and plurisyllabic bases (Cf. Hirt, *Der indogermanische Ablaut*).—Dr. Gray.

CHAPTER III

EXAMPLES OF PRIMITIVE SEMITIC STEM-FORMATIONS

In seeking to analyse the Semitic triliterals according to their formatives, the fact must first be recognized that a large number of these roots have probably come into existence at a relatively late period, and that they may have been formed, from their very inception, upon the analogy of triliterals—a fact to which Lagarde has already called attention.[262] Notwithstanding this necessary reservation, the presentation of a comparatively small number of selected examples from the classic languages of the Semitic group, will amply prove the correctness of the hypothesis here maintained—that the Semitic triliteral is developed from a biliteral stem by means of a root-determinative; and that the root-determinatives are identical with the well-known stem-formatives.

The chief obstacle which confronts the investigator of the Semitic root-determinatives is the frequent difficulty (if not, indeed, the impossibility) of distinguishing between pre-, in-, and post-determinatives in certain obscure formations; and here the only hope for a correct solution of the problem lies in keen judgement and in close comparison of kindred

[262] Lagarde, *Symmicta*, p. 122: "There are in Semitism triliteral roots which do not yield to any attempt to reduce them to biliterality ... We may expect that it also formed new roots which from their very cradle were triliteral."

forms. Thus, in studying the etymology of the Hebrew בָּתַק, 'to slash, cut to pieces' (Ezekiel xvi. 40), the first impulse would be to connect it with *בתת, 'to cut,' Arabic بَتَّ, 'to sever,' and to regard the *q* as a post-determinative; but since *q* is a very rare determinative, it would be more plausible to connect it with √בק, 'to cleave' (seen in בָּקַע, 'to cleave,' בָּקָר, *'to divide,' etc.), and to consider its *t* as an infixed reflexive element. The reason for such infixation would lie in the fact that the root came under the influence of *בתת, to which it sought to assimilate itself. Every case must, therefore, be judged individually; no general rules can be laid down. It may, however, be regarded as axiomatic that a primitive biliteral will invariably be found in the intensive ע״ע verb or underlying the hollow verb; and these biliterals can be used as a basis for further investigation.

i

Stative Stems. These stems, which fall into the two categories of *a*) פ״ו or פ״י, and *b*) ל״ו or ל״י, have, for the most part, become identical in meaning with verbs in ע״ו, ע״י, the latter having assumed a stative connotation because of the common determinative ו״י which the two classes possess. They generally denote *α*) an intransitive or stative force of the root; or *β*) an abstract condition. [The attempt is made in the following examples to restore in some of the less evident cases the hypothetical original meaning, these meanings being indicated by a prefixed asterisk.][263]

[263] All verbs which are not found in the first (or *qal*) form are also regarded as hypothetic, and their roots are invariably indicated by a prefixed asterisk.

A. HEBREW

a) פ"ו or פ"י

יָגֹר, '*to quiver,[264] be in a state of fear.' √*gr*, '*to harrow, drag'; cf. גָּרַר, 'to drag' (intensive),[265] whence מְגֵרָה, 'saw,' מִתְגּוֹרֵר, 'making itself drag swiftly along' (Jer. xxx. 23); גּוּר, primarily, '*to drag along, tarry, sojourn temporarily';[266] secondarily, 'to harass,' 'to be in a state of fear'; גָּרַד, *גָּרַב, 'to harrow, scrape.'

יָחַם, 'to be hot.' √*ḥm*, '*to burn, make hot'; cf. חָמַם, 'to become warm,' חַמָּה, 'heat, sun.'

*יָחַף, '*to be uncovered' (privative), whence יָחֵף, 'barefoot.' √*ḥf*, '*to cover'; חָפַף, 'to enclose, cover,' חֻפָּה, 'canopy'; חָפָה, 'to cover.'

יָכַל, '*to be comprehensive, able.' √*kl*$_{(1)}$, '*to encompass, surround'; cf. Aramaic כְּלִילָא, 'crown,' and כָּלַל, 'to surround'; Hebrew כַּלָּה, '*the wreathed one, bride'; כָּלָא, '*to surround, shut up, restrain'; כָּלַל, '*to comprehend, include,[267] complete'; כָּלָה, 'to be complete' (second stative stem).

יָסַף, '*to sweep in, add.' √*sf*, '*to sweep';[268] cf. סוּף, '*to be swept off, come to an end, cease'; סוּפָה, 'storm-wind';

[264] More literally 'to make the flesh creep' (cf. Latin *horrere*, 'to bristle, shudder'). Similar metonomous expressions of fear are נָטְנוּ (Joshua iv. 24), 'they melted from fear,' and לֵב נָמַס (Nahum ii. 11), 'faint-hearted.'

[265] For analogical developments to this root, cf. Latin *trahere*, 'to draw, drag,' in Walde, *Lateinisches etymologisches Wörterbuch*, p. 788.

[266] The Biblical verb גּוּר always means 'to tarry' in contrast to יָשַׁב which means 'to dwell.' See the comment on Deuteronomy xxvi. 5 in the Sifri.

[267] The meaning 'to include' is usual in Neo-Hebrew. Haupt (*AJSL.*, xxii. 205) thinks 'to hold' is more original.

[268] Cf. Martin, *Semitic Languages*, ii. 16.

סָפָה, 'to sweep away'; סָפַח, '*to sweep towards, join, attach to'; אָסַף, '*to sweep together, gather' (causative).

יָעַד, 'to designate, appoint.' √*'ad*, '*to be ready'; cf. עוּד, 'to testify,' denom. from עֵד,[269] '*one who is ready, *on hand, witness'; עָתַד, 'to prepare oneself, be ready' (reflexive).[270]

*יָעַל, '*to be high,' whence hif'îl הוֹעִיל, 'to profit.' √*'al*, '*to elevate'; cf. עָלָה, 'to ascend.'

יָקַשׁ, 'to lay snares.' √*qš*, '*to strike at, *aim at'; cf. קוּשׁ, 'to lay bait'; נָקַשׁ, 'to strike, aim'; Neo-Hebrew קִשְׁקֵשׁ, 'to strike, knock.'

*יָשַׁט, '*to wave,' whence hif'îl הוֹשִׁיט, 'to extend.' √*šṭ*, '*to wave to and fro'; cf. שׁוֹט, 'whip'; שׁוּט, primarily, '*to be wafted about, rove about'; secondarily, '*to wave aside, despise' (figurative, stative); שְׁאָט, 'contempt.'

*יָשַׁע, '*to be attentive,' whence hif'îl הוֹשִׁיעַ, 'to deliver.' √*š'a*, '*to turn, *pay attention': cf. שָׁעָה, 'to gaze, turn'; שִׁעֲשַׁע, '*to turn with attention to some one, take delight in' (strong intensive).

b) ל״ו or ל״י

אָבָה, 'to be willing.' √*'ab*, '*to desire'; cf. יָאַב, 'to be in a state of longing, desire' (stative); תָּאַב, '*to fill oneself with desire, long for' (reflexive).

בָּלָה, '*to be in a state of collapse, decay, be worn out.' √*bl*(1), '*to confuse, confound'; cf. בָּלַל, 'to confuse, confound' (intensive); נִבַּל, '*to confuse oneself, be senseless' (reflexive); נָבַל, 'to become withered, sink in decay' (stative reflexive sense).

גָּלָה, '*to roll off, exile, uncover.' √*gl*, '*to roll about'; cf.

[269] So Gerber, *Verba Denominativa*, p. 42.

[270] So Lagarde, *Reliquiae*, p. xlvii.

גָּלַל, 'to roll away'; *גָּלַע, 'to expose, lay bare'; *גָּלַח, 'to be bald.'

דָּכָה, 'to be crushed' (Psalms x. 10). √*dk*, '*to pound, beat'; cf. *דָּכַךְ, 'to crush' (intensive); דּוּךְ, 'to pound.'

דָּלָה, '*to lift' (water-pail), draw water.' √*dl*, to lift'; cf. דָּלַל, 'to hang' (intensive); דַּל, 'dependent, weak.'

*חָקָה, '*to cut out,' whence pi'êl 'to carve out.' √*ḥq*, '*to cut, carve'; cf. חָקַק, 'to cut in, inscribe'; חָקַר, 'to search through, explore' (figurative); שָׁחַק, '*to carve into pieces, pulverize.'

עָרָה, 'to be bare, naked.' √'ar*$_{(1)}$, '*to uncover'; cf. *עוּר, 'to be exposed, bare'; עָרַר, 'to strip.'

*פָּלָה, 'to be distinct' (nif'al). √*pl*, '*to separate, cleave'; cf. פָּלַל, 'to intercede, discern, judge';[271] פָּלַח, 'to cleave'; *פָּלָא, '*to be distinct, marvelous, extraordinary.'

B. ARAMAIC.

a) פ״ו or פ״י.

יָטָא, 'to reach.' √*ṭ'a*, '*to extend, turn';[272] cf. נָטָא, 'to turn oneself, extend' (reflexive).

יָטַב, 'to be good.' √*ṭb*, '*to be good';[273] cf. *טוּב, טָאַב, 'to be good' (both stative in force).

*יָמַס, '*to be in a liquid state.' √*ms*, '*to melt'; cf. מָסַס, 'to melt'; מָסִי, 'to be in a liquid state.'

[271] Cf. Greek κρίνω, 'to separate, judge,' Latin *cerno* (Walde, *op. cit.*, p. 154).

[272] Cf. Vollers, *ZDMG.*, xlix. 505.

[273] The root *ṭb* is found also in טָבַע, 'to impress,' טָבַל, 'to dip,' etc. The Semitic concept of goodness is thus seen to have developed from the concept of fixedness, stability (cf. Neo-Hebrew טֶבַע, 'nature'). Similarly Arabic حُسْنٌ, 'goodness' is primarily 'soundness' (cf. Aramaic חֲסַן, 'to be strong'). In the Aryan world, the good is the gifted, the fortunate (cf. Latin *bonus* for Old Latin *duonus*, Walde, *op. cit.*, p. 94).

*יָנַח, 'to be in a state of rest,' whence 'af'el 'to set down.' √*nḥ*, '*to rest'; cf. נוּחַ, 'to rest.'

*יָעַק, '*to be squeezed in.' √*ʿaq*, '*to squeeze'; cf. עִיק, 'to be squeezed in'; עָקָא, 'oppression.'

*יָרַע, '*to be broken up, decrepit,' whence pa'el 'to break up, injure.' √*rʿa*(1) '*to shatter'; cf. רָעַע, 'to break into pieces, shatter' (intensive).

b) ל״ו or ל״י.

בָּרִי, 'to cut into shape, form.' √*br*(1), '*to cut apart, separate'; cf. בָּרַר, 'to cut apart, separate.'

*גָּבִי, '*to be high,' whence גַּבְיָא, 'high, valued.' √*gb*(2), '*to be high'; cf. גָּבַהּ, 'to be high'; גַּב, 'back'; גִּיבָּא,[274] 'back of hill'; גְּבִינָא, 'crook-backed'; גָּבַר, 'to be powerful.'

דָּחִי, 'to push.' √*dḥ*, '*to push'; cf. נָדַח, 'to push, thrust'; דָּחַף, 'to push, drive.'

חָדִי, '*to be pierced with joy,[275] rejoice.' √*ḥd*, '*to pierce, sharpen'; cf. חָדַד, 'to be sharp, pointed'; חִידָתָא, '*pointed remark, riddle,' whence חוּד, 'to propound a riddle.'

כָּפִי, 'to bend, twist.' √*kf*, '*to bend'; cf. כְּפַף, 'to bend'; כָּפַל, 'to fold, double over'; כָּפַן, 'to writhe with hunger.'[276]

[274] Levy (*CWB Targumim*, i. 122) compares this with Latin *gibbus;* but the Hebrew has גִּבְעָה, 'mountain,' from the same biliteral root.

[275] Cf. Hebrew וַיִּחַד, 'he rejoiced' (Exodus xviii. 9), on which the Rabbis comment (Sanhedrin 94, a) in a derogatory manner נעשה בשרו חדודין חדודין, 'his flesh became pierced through and through.' They here retain the original connection between חָדָה and חָדַד. The root חָדִי expresses a subjective condition of happiness; Hebrew גִּיל is objective and means originally '*to bound' (*Vgl*, see p. 90), like the English *exult* from the Latin *exsultare*, 'to leap up' (Skeat, *Etymological Dictionary*, p. 201); while עָלַץ means originally '*to joke, be jovial' (*Vlṣ*, cf. לִיץ 'to make merry over, scorn'), like English *jocundity*.

[276] Cf. etymology of Latin *fames*, 'hunger,' related to Greek χαίνω, 'to gape,' Walde, *op. cit.*, p. 269.

פְּצִי, 'to open.' √*pṣ*(1), '*to break, cleave'; cf. פָּצַע, 'to split'; *פָּצַם, 'to tear out'.

C. SYRIAC.

a) ע"ו or ע"י.

ܨܒ, 'to desire.' √*'ab*, '*to desire'; cf. Aramaic אָבֵי, 'to desire'; Hebrew יָאַב, 'to be willing.'

*ܐܙܠ, '*to go, flow,' whence 'af'el 'to lead.' √*bl*(2), '*to go, flow'; cf. مَعْبَلٌ, 'path,' whence ܐܰܒܶܠ, 'to lead'; ܡܰܥܒܠܳܐ, 'row, series'; Hebrew יוּבָל, 'rivulet.'[277]

ܙܥܦ, '*to be strange, borrowed.' √*zf*, '*to be strange'; cf. *ܙܳܦ, '*to be borrowed,' whence pa'el 'to falsify.'

*ܚܠܫ, '*to be weak, sick.'[278] √*ḫl*, '*to dig out, undermine'; cf. ܚܠ, '*to undermine,' whence 'af'el, 'to profane'; Hebrew חָלָה, 'to be weak, sick'; חָלַל, 'to dig out, bore, pollute.'

ܨܦ, 'to be anxious.' √*ṣf*(2), '*to gaze at'; cf. ܨܦ, 'to burn with desire'; Aramaic *צִיף, 'to look at'; Hebrew צָפָה, 'to spy out, look after.'

*ܪܡ, 'to be high.' √*rm*, '*to be high'; cf. ܪܡ, 'to be high.'

b) ע"ג or ע"ג.

ܓܙ, 'to cut off, deprive.' √*gz*, '*to cut'; cf. ܓܙ, 'to shear'; ܐܓܙ, 'to cut down'; ܡܓܙ, 'to cut off'; ܓܙ, '*to be cut off, depart, vanish' (stative).

[277] Friedrich Delitzsch denies the existence of √*bl*(2) 'to flow' in Hebrew, but connects יוּבַל with הוֹבִיל, 'to lead,' which is a purely causative development of the original meaning. He thinks מַבּוּל, 'flood,' is from נָבַל (√*bl*(1)), 'to destroy'; a very unlikely development (cf. *Hebrew Language*, p. 67).

[278] The root here is *ḫl* and not *ḥl*(1). '*to shake' (cf. Hebrew חִיל, 'to tremble,' Arabic حَالَ, 'to turn'), The Arabic خَلَّ, 'to become weak, thin,' is of the same stock. For the development in meaning compare ܟܪܝ, כָּרִי, 'to be sick,' from *kr*(2), '*to dig' (Cf. Hebrew כָּרָה).

ﺯﻫﺮ, 'to be bright, brilliant.' √*zh*, '*to shine'; cf. ﺯﻫﺮ (for ﺯﻫﺮﺓ), 'light, brightness'; ﺯﻫﺮ, 'to shine.'

ﺳﺨﻦ, 'to be heated, aroused.' √*ḥr*, '*to burn'; cf. Aramaic חֲרַר, 'to burn,' whence חֲרָרָא, 'cake'; ﺳﺨﻦ, '*to be bleached, become white' (secondary pa'el derivative); Hebrew חוּר, 'white stuff.'

*ﻃﻤﻢ, '*to be clogged up, foul,'[279] whence pa'el 'to defile'. √*ṭm*, '*to obstruct, close up'; cf. ﻃﻤﺮ, 'to obstruct'; ﻃﻤﺎ, 'to defile'; ﻃﻤﻢ, 'to obstruct, hide'; ﻃﻤﻢ,[280] 'to submerge'; Hebrew אָטַם, 'to close up'; Aramaic טְמְטֵם, 'to clog, stop up.'

ﺻﻔﻰ, '*to sweep together, collect.' √*sf*, '*to sweep';[281] cf. *ﺗﺼﻔﻰ, '*to sweep in, add'; ﺻﻔﻰ, '*to be swept off, perish.'

ﺣﺼﺮ, 'to press upon, compel.' √*'aṣ*, '*to press, strain'; cf. ﺣﺼﺮ, 'to compel, force'; ﺣﺼﺮ, 'to tie, bind'; ﺣﺼﺮ, 'to press, strain';[282] ﺣﺼﺮ, 'to compress.'

D. ASSYRIAN.

a) פ״ו or פ״י; *b*) ל״ו or ל״י.

ורד, *aradu*, 'to come down.' √*rd*$_{(1)}$ '*to go, march'; cf. רדה, *radû*, 'to tread, go after, walk'; רדד, *radadu*, '*to go after rapidly, pursue' (intensive).

*ושן, '*to be in repose,' whence *šittu*, 'sleep', *šuttu*, 'dream.'

[279] A similar development is seen in the English *dung* (cf. Danish *dynge*, 'to heap up') (Skeat, *op. cit.*, p. 182).

[280] The roots *ṭm* and *ṭb*, '*to impress,' have interacted the one on the other in some of the derivative forms. Thus, ﻃﻤﻢ and טְמַע, 'to submerge,' have been developed from *ṭm* under the influence of *ṭb*. Both roots may have been originally differentiated biliterals.

[281] Cf. Martin, *Semitic Languages*, ii. 16.

[282] The form fell under the influence of *ṣr*, '*to bind,' and developed the *r*.

√*šn*(1), '*to quiet, lull';[283] cf. Hebrew שַׁאֲנָן, 'at ease, quiet'; יָשֵׁן, 'to be asleep.'

יצף, *eṣepu*, '*to overflow, *increase, add.' √*ṣp*(1), '*to flow'; cf. Hebrew צוּף, 'to flow'; שָׁצַף, 'overflow' (causative).

זכה, *zakû*, 'to be pure.' √*zk*, '*to shine, be pure'; cf. Hebrew זָכַךְ, 'to be bright,' זָכָה, 'to be pure.'

חרה, *ḫarû*, 'to dig.' √*ḫr*, '*to dig';[284] cf. חרר, *ḫararu*, 'to dig, bore'; חרץ, *ḫaraṣu*,[285] 'to cut into, dig'; *naḫîru*, 'nostril'; Hebrew חוֹר, 'hole.'

רבה, *rabû*, 'to be great'. √*rb*, '*to grow, increase'; cf. רבב, *rababu*, 'to be great'; ירב, *erebu*, 'to increase.'

E. ARABIC.

a) פ״ו or פ״י.

وَجَهَ 'to face, encounter.' √*gh*, '*to face'; cf. جُوهٌ, 'face'; جَاهَ, 'to encounter.'

وَسَمَ, 'to mark, brand.' √*šm*(1), '*to mark'; cf. سَمَا, 'to be marked, eminent, high, lofty.'[286]

وَفَزَ, 'to hasten.' √*fz*, '*to hurry, bestir oneself'; cf. فَزَّ, 'to be excited, aroused'; فَزٌّ, 'light, active man'; فَزَعَ, 'to be excited, frightened.'

وَفَقَ, 'to turn out right'. √*fq*, '*to come forth high'; cf. فَاقَ, 'to be superior'; فَوْق, 'above'; نَفَقَ, 'to be made high, honored.'[287]

[283] The roots *šn* and *šl* (cf. Hebrew שָׁלָה, 'to be quiet') are originally differentiated forms.

[284] The roots *ḫr*, '*to dig,' and *ḫl*, '*to dig out,' are, likewise, primitive, differentiated forms.

[285] The *ṣ* was developed through the influence of *ḥṣ*(2), '*to cleave, divide' (cf. *ḥuṣṣu*, 'destruction, *ḥaṣabu*, 'to cut off').

[286] Both words may be denominatives from Old Semitic اِسْمٌ, שֵׁם, 'name.'

[287] Cf. Dozy, *Supplement*, ii. 704.

وَلَجَ, 'to enter into.' *√lg*, '*to keep on going, engage in'; cf. لَجَّ, 'to persevere, persist' (intensive); لَجَأَ, 'to have recourse to, to betake oneself to.'

وَهَنَ, 'to become weak, infirm.' *√hn*, '*to wane, be deficient; cf. هَانَ, 'to be low, abject, vile'; هَنَةٌ, 'small, little thing.'

*يَطِبَ, 'to be good.' *√ṭb*, '*to be good'; cf. طَابَ, 'to be sweet.'

b) ל״ו or ל״י.

بَدَا, '*to be divided off, become distinct, apparent.' *√bd*, '*to divide'; cf. بَدَّ, 'to divide'; بَدَأَ, '*to divide off from others, give precedence to, make first'; بَدَلَ, 'to become different, change, alter.'

جَدَا '*to be destined, *of good luck,' hence, 'to be of profit, avail.'[288] *√gd*, 'to cut';[289] cf. جَادَ, 'to be good, excellent'; جَدَّ, 'to cut off,' secondarily, 'to be fortunate'; Hebrew גַּד, 'good luck.'

حسَا, '*to be sparing of one's substance, taste little, sip.' *√ḥs*, '*to spare'; cf. حَسَّ,[290] 'to be sparing, compassionate'; related to Hebrew חוּס, 'to spare'.

حَظَا, 'to be fortunate, happy.' *√ḥẓ*, '*to have good fortune'; cf. حَظَّ, 'to be fortunate, happy.'

[288] Lagarde has given a list of developed forms from the root *gd*, 'to cut' (*Symmicta.* p. 128), but many of them are rather doubtful.

[289] For a similar line of development, compare German *bescheren.*

[290] In the fourth stem the meaning is 'to perceive.' This is the root, *ḥš*(2) '*to feel' (cf. Aramaic חֲשַׁשׁ, 'to feel, suffer,' חֲשַׁד, 'to suspect'). *hš*(1) means '*to stir' (cf. Hebrew חוּשׁ, Arabic حَثَّ, 'to hasten'). *ḥš*(3) means 'to whisper' (Aramaic חֲשָׁא, 'whispers'). The roots *ḥš*(2) '*to feel,' and *ḥs*, '*to spare' (*i. e.* '*to feel for'), may be original differentiations. *hš*(1) is distinguished by the different character of the *š* sound (*š*2).

رَخَا, 'to be flaccid, soft.' √*rḫ*, '*to be soft'; cf. رَخَّ, 'to be soft'; رَخُمَ, 'to be soft, gentle.'

صَحَا, 'to become clear, cloudless.' √*ṣḥ*, '*to be clear'; cf. صَحَّ, 'to be healthy, sound.'

ضَنَى, 'to become slender.' √*ḍn*, '*to adhere'; cf. ضَنَّ, 'to be niggardly, stingy, tenacious'; ضَنَكَ, 'to become weak in body, soul.'

F. ETHIOPIC.

a and *b*.

ወሐከ፡, 'to harass, irritate.' √*ḫk*, '*to harass'; cf. **ሐከከ**፡, 'to scratch, rub.'

ወሠረ፡, 'to saw.' √*šr*(1), '*to saw';[291] cf. Arabic نَشَرَ, وَشَرَ, and أَشَرَ, 'to saw' (p. 13).

ወረቀ፡, 'to thrust forth (spittle).' √*rq*, '*to thrust'; cf. Arabic رَاقَ, 'to be agitated, moved to and fro'; رِيقٌ, 'saliva'; **ረቀቀ**፡, '*to be blasted, thin, tender'; Arabic رَقَّ, 'to be thin'; Hebrew *רָקַק, 'to empty, spit'.

ወቀረ፡, 'to hew out.' √*qr*, '*to dig';[292] cf. Arabic نَقَرَ, 'to peck, bore'; قَارَ, 'to hollow out' (p. 13).

ሐመየ፡, '*to use words in heat, curse.' √*ḫm*, '*to burn, be hot'; cf. **ሐሞት**፡, 'gall'; **ሐመመ**፡, '*to burn with fever, be sick, in pain.'

መጠወ፡, 'to extend, furnish.' √*mṭ*, '*to turn'; cf. **ሜጠ**፡, 'to turn, avert.'

***በቀወ**፡, '*to be torn apart, open,' whence causative 'to

[291] The biliterals *šr* and *qr* have each been merged into one meaning in the various stems of the weak verb (p. 13).

[292] The roots *qr*, *kr*(2), *ḫr*, and *ḫl* are all primitive differentiations from the first meaning 'to dig.' Haupt (*AJSL.* xxiii. 241—252) very clearly shows the near relationship between the first three of these biliterals.

open.' √*bq*, '*to cleave'; cf. בָּקַע, 'to rip'; ⲛⲁϥⲛ:, 'to be born, issue forth; בָּקַל, 'to come forth' (plants); בָּקַר, 'to rip.'

ⲁⲛⲱ:, 'to take to heart, perceive.' √*lb*;[293] denominative from ϩⲓⲏ:, 'heart'; Aramaic לְבְלֵב, 'to be courageous.'

ii

Intensive stems. While a great number of ע״ע verbs have retained their intensive meaning, others have lost all traces of an intensive character,[293a] and, of this latter category, many have become identical in connotation with the פ״ו, ל״ו, and ע״ו verbs. Since constant reference is made to these intensives at almost every step of the present discussion, it is scarcely necessary to repeat them under a separate caption.

iii

Purposive stems. In the purposive stems the original long vowel of the stem has become a weak consonant or guttural (ʾ), *h*, (ʿ) (*ḥ* is rare). The stem originally denoted *α*) effort, *β*) aim, purpose, although many of these verbs have lost these connotations. The development of this stem into the weak consonants *w* or *y* has resulted in a false identification, through formal analogy, with the פו״, לו״, or stative stems. They will, therefore, not be treated here, especially since the hollow verbs as well as the ע״ע verbs are used in every part of the discussion as criteria for establishing the identity of the original biliteral element.

[293] The primary meaning of *lb* may be 'to flutter,' Assyrian *lababu* (cf. Delitzsch, *Proverbs* 88 ff.). The older meaning of Aramaic לְבְלֵב, 'to sprout forth' (whence לוּלָב, 'palm'), makes this probable.

[293a] Toy (*Transactions of the Amer. Philological Ass'n*, 1876, p. 71) also believes that ע״ע verbs form original intensive stems.

A. HEBREW.

*בָּאַר, '*to cut apart, separate,'[294] whence pi'êl, 'to make distinct.' √*br*(1), '*to cut apart'; cf. בְּאֵר, 'well, pit'; בּוֹר, 'cistern'; בָּרַר, '*to separate distinctly, purify, select' (intensive); בָּרָא, 'to cut out, shape, create.'

לָאַט, 'to hide, cover' (II Samuel xix. 5). √*lṭ*, '*to cover'; cf. לוּט, 'to wrap closely, enwrap'; בְּלָהֲטֵיהֶם, 'with their mysteries' (Exodus vii. 11).

אָהַב, '*to incline towards one with desire, love.' √*'ab*, '*to desire'; cf. אָבָה, 'to desire.'

דָּהַר, '*to turn suddenly round, prance (of a horse)' (Judges v. 22). √*dr*, '*to turn;[295] cf. דּוּר, 'circle'; Arabic دَارَ, 'to move in a circle.'

*קָעַר, '*to be flat, hollow.'[296] √*qr*, '*to dig out'; cf. Arabic قَعَرَ, 'to be deep (of a well)'; Hebrew קוּר, 'to bore, dig.'

רָעַע, 'to shatter.'[297] √*rṣ*(1) '*to smash'; cf. רָצַץ, 'to crush'; רָצַח, 'to murder'; רָצַע, 'to stab, pierce.'

B. ARAMAIC.

בְּאַשׁ, '*to putrify' hence 'to be foul, bad.' √*bš*, '*to be putrid'; cf. בִּישׁ, 'bad, evil'; בְּעַשׁ, 'to be unpleasant.'

מְאַךְ, 'to sink low.' √*mk*, '*to sink; cf. מוּךְ, 'to sink, bend'; מְכַךְ, 'to make low, bend.'

*בְּהַר, '*to strive to be separate, *distinct,' hence, 'to shine.'[298] √*br*(1), '*to cleave, separate'; cf. בָּרַר, 'to separate'; בָּרִיר, 'distinct, clear.'

רְהַט, '*to start in motion, run.' √*rṭ*, '*to shake';[299] cf. *רָטַט, 'to quiver, shake.'

[294] Cf. Haupt (*AJSL.*, xx. 171).

[295] Cf. Delitzsch, *Prolegomena*, p. 191, note.

[296] So also Haupt (*AJSL*, xxiii. 245).

[297] The ע is here due to the influence of *r'a*, 'to break.'

[298] Similarly בָּהַק, 'to shine,' is a formation from √*bq*, 'to cleave.'

[299] Compare Latin *curro* which is developed from a root **qer-s*,

סָעַר, '*to seek to establish, support, set on a firm foundation.' √*sd*, '*to establish'; cf. יָסַד, 'to establish, found'; סָדַר, 'to bring order, array.'

פָּעַר, 'to uncover.' √*pr*(1), '*to cleave apart'; cf. פָּרַץ, 'to open, uncover'; פָּרַר, 'to cleave apart.'

C. SYRIAC.

*ܫܠܚ '*to send', whence ܫܠܝܚܐ, 'messenger.' √*lk*, '*to go'; cf. Hebrew הָלַךְ, *יָלַךְ, 'to go'; Arabic سَلَكَ, 'to travel'; Ethiopic ለአከ፡, 'to send with a message'; Hebrew מַלְאָךְ, 'messenger.'

*ܡܗܪ, '*to bring about an exchange, *barter,' whence ܡܗܪܐ, 'dower.' √*mr*, '*to exchange'; cf. ܡܟܪ, 'to buy';[300] Hebrew מֹהַר, 'dower'; הָמִיר, 'to exchange.'

ܟܕ, 'to bear in mind.' √*ʿad*, 'to be ready'; cf. ܥܕܕ, 'to be prepared': Hebrew עוּד, '*to be on hand, witness.'

ܨܠ, '*to make a vibrating sound, to neigh.' √*ṣl*, '*to sound, ring'; cf. ܨܠܨܠ, 'to tingle'; ܨܠܨܠܬܐ, 'cymbal.'

*ܦܚ, '*to spread on all sides,' whence ܦܚܐ, 'pancake.' √*rf*, '*to flutter'; cf. ܪܦ, 'to expand the wing'; Aramaic רָפַף, 'to flutter, bestir itself.'

ܫܛ, 'to sail, swim.' √*šṭ*, '*to wave to and fro'; cf. Aramaic שׁוּט, 'to swim, sail'; ܫܛ, '*to wave aside, spurn.'

D. ASSYRIAN.

כאן, *kânu*, 'to humble oneself (before God).' √*kn*(1), '*to bring to the ground';[301] cf. כון, *kânu*, '*to be on a level, to stand fast, be firm'; כנן, *kananu*, 'to crouch, bend to the ground'; Hebrew כָּנַע, 'to level.'

'to quiver'; similarly, English *run* (Greek ὄρνυμι, Latin, *orior*, are from a root **er*, 'to quiver, shake' (cf. Walde, *op. cit.*, pp. 215—216; 547).

[300] The relationship is denied by Delitzsch (*Prolegomena*, p. 190, note), but upheld by Haupt (*AJSL.* xx. 171).

[301] Cf. Martin, *op. cit.*, ii. 15.

מאד, *mâdu*, '*to be of extensive proportions, increase.' √*md*, '*to extend, measure';[302] cf. מדד, *madadu*, 'to measure'; Hebrew מָדַד, 'to measure'; מְאֹד, 'exceedingly.'

ר$_2$אב, *ra'abu*, '*to try to be big, be insolent, attack.' √*rb*, '*to grow, increase'; cf. רבה, *rabu*, ירב, *erebu*, 'to be great, increase'; רבב, *rababu*, 'to be great.'

שאת, *šêtu*, '*to try to break away, escape, withdraw.' √*št*, '*to break, cleave'; cf. *שתת, 'to cleave,' whence *šuttu*, 'hole'; שתר, *šataru*, 'to devastate.'

E. ARABIC.

*تَأَرَ, 'to repeat,' whence تَارَةٌ, 'a time.' √*tr*, '*to run'; cf. تَارَ, 'to run'; تَاوَرَ (III stem), 'to repeat.'[303]

جَأَشَ, 'to be stricken by grief or fear'. √*gš*$_{(1)}$, '*to sigh, be afflicted'; cf. جَشَأَ, 'to emit a sound of grief or fear'; جُؤْشٌ, 'breast'; جَشِعَ, 'to become affected with desire.'

جَهَشَ, 'to betake oneself to someone because of grief or fear.' √*gš*$_{(1)}$, '*to sigh, be afflicted'; cf. the preceding discussion.

دَهَرَ, '*to turn in on one, befall (good or bad fortune).' √*dr*, '*to turn'; cf. دَارَ, 'to turn, revolve'; دَرَأَ, 'to turn back, repel'; دَرَهَ, 'to turn on one suddenly.'

دَعَكَ, 'to rub, press.' √*dk*, '*to beat, crush'; cf. دَكَّ, 'to break, crush'; دَاكَ, 'to bruise, pound.'

شَعَفَ, 'to smear, anoint, overspread.' √*šf*, '*to smear'; cf. شَافَ, 'to polish'; شَفَّ, 'to be translucent, shining.'

[302] The meaning 'to measure' is a development from the idea of extension (So Muss-Arnolt, *Dictionary*, p. 514).

[303] The meaning has passed through a similar line of development and accordingly, تَاوَرَ = تَأَرَ.

F. ETHIOPIC.

ሰእነ፡, 'to be weak, impotent.' √*šn*(1), '*to quiet, lull'; cf. Hebrew שַׁאֲנָן, 'at ease'; יָשֵׁן, 'to be asleep.'[304]

ለሠሰ፡ or **ለሐሰ**፡, 'to lick.' √*lš*, '*to lick'; cf. Arabic لَسَّ, 'to lick'; لِسَانٌ, 'tongue'; Hebrew לָשׁוֹן, 'tongue'; **ለሸሐ**፡, '*to lick off, become insipid, inefficacious'.

ኸሀለ፡, '*to try to encompass, be powerful, able.'[305] √*kl*(1), '*to encompass, surround'; cf. **ከለለ**፡, 'to wreathe, surround'; **አከለ**፡, 'to effect, accomplish' (causative).

በፀደ፡, '*to cut off suddenly, change.' √*bd*, '*to separate, divide'; cf. **በደበደ**፡, '*to be suddenly changed, perish', (intensive); **በደየ**፡, 'to become like dead' (denominative); **በደወ**፡, '*to be divided from, alone.'

iv

Causative and Kindred Stems. The pure causatives are formed in Semitic by prefixing *š*, (ʾ), or *h* to the biliteral root, and their original force is still evident. Related to the causatives are the stems with pre-determinative (ʿ) and *ḥ*, some of whom have a causative meaning.

A. HEBREW.

שָׁבַת, '*to put a stop to, rest.' √*bt*, '*to cut off, sever'[306]; cf. *בָּתַת, 'to cut off, sever'; בָּתַר, 'to cut in two'; Arabic بَتَّ, 'to sever'; سَبَتَ, 'to interrupt.'

*שָׁזַר, 'to twist.' √*zr*, '*to turn'; cf. זוּר, 'to wring, compress' (Judges vi. 38); זַר, 'circlet'; אֵזוֹר, 'girdle.'

שָׁחַת, '*to bring to the ground, ruin.' √*ḥt*, '*to undermine,

[304] So Dillmann, *Lexicon*, p. 376.

[305] So Haupt (*AJSL.*, xxii. 205).

[306] The idea of rest originates in Semitic generally from the idea of interruption (cf. שָׁקַט and בָּטַל below).

level'; cf. חָתַת, *'to be shattered, dismayed'; Aramaic נְחַת, *'to come down to the ground, descend' (reflexive).

שָׁקַט, *'to put a stop to, cease,' hence, 'to be at rest.' √*qṭ*, *'to cut off'; cf. *קָטַב, 'to cut off, destroy'; קָטַל, 'to slay'; קָטַן, *'to be cut off, short'; קוּט, *'to be cut' (figuratively). hence, 'to loathe, feel disgust for.'[307]

אָבַד, *'to be cut off, perish.' √*bd*, *'to separate, divide'; cf. בָּדַד, 'to be separate'; *בָּדַל, 'to be divided.'

אָשַׁר, *'to go in a straight line, advance.' √*šr* (2), *'to go straight'; cf. שׁוּר, 'to journey, travel'; Arabic سَارَ, 'to march, journey'; Neo-Hebrew שׁוּרָה, 'a row, file'; יָשַׁר, 'to be straight, upright.'

הָדַף, 'to thrust, push, beat off.' √*df*, *'to beat, knock'; cf. *דָּפָה, *'to be wounded,' whence דַּפִּי, 'blemish' (Ps. i. 20); דָּפַק, 'to beat, knock';[308] נָדַף, 'to push, drive.'

הָפַךְ, 'to turn, overturn.' √*pk*, *'to pour'; cf. שָׁפַךְ, 'to spill'; *פכך, *'to spill,' whence פַּךְ, 'flask'; Neo-Hebrew פִּכְפֵּךְ, 'to trickle.'

חָבַט, 'to beat out.' √*bṭ*, *'to beat, strike';[309] cf. בָּעַט, 'to kick'; בָּטַל, *'to be beaten off,' hence, 'to desist, cease'; *נָבַט, perhaps 'to dart (a glance),' hence, 'to look.'

*עָגַל, *'to roll around.' √*gl*, *'to roll about'; cf. גָּלַל, 'to roll'; גָּלָה, 'to roll off, uncover'; גִּיל, *'to bound with joy, rejoice.'[310]

B. ARAMAIC.

שְׁבַק, *'to tear away, let go free.' √*bq*, *'to cleave'; cf. בָּקַע,

[307] Similarly קוּץ, 'to loathe,' is developed from *qṣ*, *'to cut,' the causative form of which, שָׁקַץ, also means 'to abhor.'

[308] The *q* was developed through the influence of *dq*, *'to pound.'

[309] Cf. Lagarde, *Reliquiae*, p. xlvii, and Martin, *op. cit.*, ii. 12.

[310] Cf. note 275.

'to cleave'; בָּקַר, '*to cut into, make an investigation';[311] Hebrew בָּקַק, בּוּק, '*to be cleft, empty.'

שָׁנַר, '*to make to trickle, shed.' √*gr*, '*to harrow, drag'; cf. גָּרַר, 'to draw, drag'; Arabic جَرَى, 'to run along, flow'; Hebrew אָגַר, '*to drag together, gather.'

שָׁדַף, 'to drive, pursue.' √*df*, '*to beat, knock'; cf. דָּפַן, 'to beat'; דַּף, '*something planed, plank'; נָדַף, '*to thrust oneself forth, spread' (reflexive).

שָׁחַם, '*to burn to brownness,' hence, 'to become brown.' √*ḥm*, '*to burn'; cf. חָמַם, 'to be hot'; Hebrew חוּם, 'brown.'

אָזַן, 'to arm oneself.' √*zn*; denominative from זַיִן, 'weapon.'

אָשַׁד, 'to cast forth, pour.' √*šd*(1) '*to throw'; cf. שָׁדִי, 'to throw'; שָׁדַר, 'to send' (causative force).

הָדַף, 'to drive, push' √*df*, '*to beat'; cf. שָׁדַף, above.

הָדַר, 'to walk around, turn around.' √*dr*, '*to turn'; cf. Arabic دَارَ, 'to move in a circle'; Hebrew דּוּר, 'circle.'

חָבַל, 'to become corrupt, bring to ruin.' √*bl*(1), '*to confuse, confound'; cf. בָּלַי, 'to be in ruin, decay.'

*עָכַל, pa'el 'to consume.' √*kl*(2)[312], '*to finish, consume'; cf. אָכַל, 'to eat up, consume'; Hebrew כָּלָה, 'to finish, consume.'

C. SYRIAC.

ܥܒܰܪ, 'to act boyish' √*br*(2); denominative from ܒܪ, 'son.'

ܥܫܰܚ, '*to pierce one's eyes by a money offer, bribe.' √*ḥd*, '*to pierce, sharpen'; cf. Aramaic חָדַד, 'to be sharp'; Hebrew שֹׁחַד, 'bribe.'[313]

[311] Similarly חָקַר, 'to explore,' from *ḥq*, 'to cut' (p. 78); √*br* may have also exerted an influence in specializing the *r*.

[312] √*kl*(2), '*to consume,' is a development from *kl*(1), '*to embrace, complete' (See Haupt, *AJSL.*, xxii. 205).

[313] Cf. note 115.

ḥṭṭ, '*to burn to blackness,' hence, 'to be black.' √*ḥr*, '*to burn'; cf. Aramaic *חֲרַר, '*to burn'; ḥwr, '*to become bleached, white.'

ḥpš, 'to spread, extend.' √*ṯḥ*, '*to spread over'; cf. *ṯḥ, 'af'el, 'to cover'; Hebrew טוּחַ, 'to over-spread, besmear, coat'; ṯḥwrt, 'hemorrhoids'; Hebrew טְחוֹרִים, 'tumours.'

zll, '*to flow,' hence, 'to go away.' √*zl*, '*to flow'; cf. zl, 'to go up'; zl, '*to flow away, be spent, light'; Hebrew זָלַל, 'to be light, worthless'; זוּל, 'to lavish.'

ṣrr, '*to compress, collect.' √*ṣr*, '*to bind';[314] cf. ṣr, 'to press together, bind'; ṣrr, '*to become constrained, narrow, low, mean'; Hebrew צַעַר, 'depression, grief.'

*hbl, root of hbl, vapor, mist, nothingness.' √*bl*(I), '*to confuse, confound'; cf. Hebrew הֶבֶל, 'vanity'; bl: 'confuse, mix up.'

sbb, 'to walk around, encompass.' √*dr*, '*to turn'; cf. dwr, 'circle'; Aramaic דָּרַר, 'to turn around.'

D. ASSYRIAN.

šabaṭu, 'to beat, strike.' √*bṭ*, '*to beat, strike'; cf. Hebrew חָבַט, 'to beat out'; שֵׁבֶט, 'rod'[315] אבט$_4$, root of *ubbuṭu*, *ebiṭu*, 'oppression, want'; *baṭṭu*, 'weapon.'

šakanu, '*to put down on the ground, place, set.' √*kn*(I) '*to bring to the ground,' cf. כון, *kânu*, '*to be on a level, firm'; כנן, *kananu*, 'to crouch.'

sakapu, '*to topple over, overthrow, upset.' √*kp*, '*to bend'; cf. כפף, *kapapu*, 'to bend, oppress'; כפה, *kipû*, 'to bow down.'

šapaṣu, '*to spread out, grow mighty.' √*pṣ*(2) '*to

[314] Cf. Martin, *op. cit.*, ii. 16—17.

[315] Cf. Lagarde, *op. cit.*, p. xlvii., Martin, *op. cit.*, ii. 12.

spread';[316] cf. Hebrew פּוּץ, 'to be dispersed'; נָפַץ, 'to spread itself, be scattered' (reflexive) (p. 22).

אבת$_1$, *a*$_1$*batu*, 'to destroy.'[317] √*bt*, '*to cut off, sever'; cf. *בתת, *batatu*, 'to bring to an end.'

אדב$_1$ or אדף$_1$, *a*$_1$*dabu*, *a*$_2$*dapu*, 'to strike down, overthrow.' √*dp*, '*to beat, knock'; cf. *duppu*, '*something beaten out, a tablet,' hence 'document'; Aramaic דַּפָּא, 'board, page'; הָדַף, 'to drive, push.'

*ארק$_1$, root of *edaqqu*, 'small.' √*dq*, '*to grind, make thin'; cf. דקק, *daqaqu*, 'to crush, make small.'

אזב$_4$, *e*$_4$*zebu*, '*to make to go one's way, forsake, let.' √*zb*, '*to go, flow';[318] cf. זוּב, *zâbu*, 'to flow, melt'; Aramaic שְׁוִיב, 'to free, deliver';[319] Hebrew עָזַב, 'to forsake, let go free.'

E. ARABIC.

Complete lists of Arabic causatives of the (פ״א), פ״ה, and פ״ש types are given by Mez[320], although he has made the error, as already noted (p. 68) of considering all these triliterals as secondary denominatives from stems which are alleged to be still in existence. It would, however, be difficult to show a haf'al or saf'al in Arabic, though both clearly existed in proto-Semitic.

سَجَرَ, 'to fill (water-pipes).' √*gr*, '*to harrow, drag'; cf. جَرَى, 'to run, trickle, flow'; جَرَّ, 'to drag, pull.'

[316] √*ps*(2) '*to spread,' is a secondary development from √*ps*(1) '*to break, smash' (cf. Assyrian *napaṣu*, 'to shatter').

[317] *abatu* and Hebrew אבר, 'to destroy,' are not directly connected as is generally supposed (cf. Muss-Arnolt, *Dictionary*, p. 11), but √*bt* and √*bd* are early differentiated biliterals.

[318] For a similar line of development, compare Indo-Germanic *leik*$_2$, 'to flow' and *leik*$_2$ 'to leave' (Latin *liquor*, *linquo*, Greek λείπω), (Persson, *op. cit.*, p. 5).

[319] "A Babylonism" (cf. Delitzsch, *Hebrew Language*, p. 69, note).

[320] *Orientalische Studien, Theodor Nöldeke . . . gewidmet*, i. 249—254.

سَدَلَ, 'to let the hair hang' √*dl*, *'to lift'; cf. دَلَا, 'to lift up, lower (bucket).'

سَطَحَ, 'to spread out, diffuse.' √*ṭḥ*, *'to spread over'; cf. طَحَّ, 'to spread, expand'; طَحَا, 'to spread out.'

سَطَرَ, 'to incise, write'. √*ṭr*, *'to cut into'; cf. طَرَّ, 'to cut.'

أَشَبَ, 'to mix.' √*šb*, *'to mix'[321]; cf. شَابَ, 'to mix, confound'; شَبَهَ, 'to mix up, to be mistaken for somebody else.'

أَدَبَ, 'to teach, train.' √*db*(1), *'to toil, labor'[322]; cf. دَأَبَ, 'to toil, labor, practise'; دَأْبٌ, 'custom, habit.'

هَجَرَ, 'to forsake, leave off.'[323] √*gr*. *'to harrow, drag'; cf. جَرَى, 'to flow, run,' جَرَّ, 'to drag, pull.'

هَجَسَ, 'to become aware of something, feel.' √*gš*(2), *'to feel'; cf. جَاسَ, *'to feel for something, seek out'; جَسَّ, 'to feel with the hand.'

حَمَزَ, 'to become sour.' √*mz*, *'to grow sour'; cf. مَرَّ, 'to become sour'; perhaps مَوْزٌ, 'banana-tree.'

عَجَسَ, 'to grasp.' √*gš*(2) *'to feel'; cf. هَجَسَ, 'to feel,' above.

F. ETHIOPIC.

ሠጠቀ፡, 'to divide, cleave.'[324] √*ṭq*, *'to cleave, smash to pieces'; cf. *ጠቀቀ፡ *'to divide up into small parts, to become subtle'; Aramaic סָדַק, 'to cleave'; דָּקַק, 'to make thin.'

[321] Arabic شَبَّ, 'to become mature,' and شَبَا, 'to be high, elevated,' are from *šb*(2).

[322] The root is also found with a slight change in meaning in Hebrew אָרַב, רָאַב, 'to be in pain, languish.' دَبَّ, 'to creep along,' is from √*db*(2), *'to flow' (cf. √*zb*, *'to flow').

[323] For a similar line of development, compare עָוַב, note 318.

[324] Praetorius (*BA.*, i. 25) thinks that the root of this word is *šq*, and the *t* is infixed. He thinks it is the same as Arabic اِشْتَقَّ.

ሰሐተ፡, 'to go astray, err.' √*ḫt*, '*to undermine, level'; cf. **ሐተተ**፡, '*to go to the bottom of a thing, explore'; Hebrew שָׁחַת, '*to bring to the ground, ruin.'

ሰቈረ፡, 'to dig through, bore.' √*qr*, '*to dig'; cf. **ነቈረ**፡, 'to be dug out, pierced'; **ወቀረ**፡, 'to hew out.'

ሰበረ፡, 'to break, fracture.' √*br*$_{(1)}$ '*to cut, split'; cf. **በርበረ**፡, '*to break up, spoil, plunder';[325] Hebrew בָּרַר, 'to separate'; שָׁבַר, 'to break.'

ኣበሰ፡, '*to make oneself foul, commit a sin.' √*bš*, '*to be putrid, foul'; cf. **ብኣሰ**፡, '*to be without flavor, downcast, grow unbearing,'; Aramaic בְּאַשׁ, בִּישׁ, 'to be foul, bad.'

ኣከለ፡, 'to effect, accomplish.' √*kl*$_{(1)}$ '*to encompass, surround';[326] cf. **ከለለ**፡, 'to wreathe, surround.'

*__ሀደመ__፡, 'to fall asleep.' √*dm*, '*to lull, quiet'; cf. *__ደመሰ__፡, '*to make quiet, extinguish, obscure'; Hebrew דָּמַם, 'to be silent'; דּוּמָה, 'silence'; רָדַם, 'to slumber.'

V

Reflexive and Kindred Stems. The direct reflexive in Semitic is formed by prefixing or infixing *t* to the biliteral base, while the indirect reflexive either prefixes or infixes *n* to its base. The indirect reflexive generally denotes an action performed for oneself or on oneself in an indirect way, and very frequently becomes mere passive, and is accordingly confused with פו״י, עו״י, or לו״י in a large number of instances. The kindred stems of this conjugation have *l*, *m*, and *r* as a pre- or in-determinative.

A. HEBREW.

תָּאַב, '*to desire for oneself, long for.' √*'ab*, '*to desire'; cf. אָבָה, יָאַב, '*to be in a state of longing, desire.'

[325] For a similar development of meaning, cf. Hebrew גָּזַל, 'to plunder,' from √*gz*, '*to cut.'

[326] Cf. Haupt, *AJSL.* xxii. 205.

*תָּהַם, '*to bestir oneself, *be in commotion,' whence תְּהוֹם, 'the deep.' √*hm*, '*to roar'; cf. הָמַם, הוּם, הָמָה, 'to roar'; Assyrian *tiâmtu*, 'ocean, sea.'

תָּקַע, 'to thrust at, clap.'[327] √*q'a*, '*to thrust at'; cf. נָקַע, '*to be thrust out, dislocated'; נָקַע, '*to dislocate itself, be alienated' (p. 21); קַעֲקַע, 'imprint, incision.'

תָּקַף, '*to encompass, overpower, prevail.' √*qf*, '*to surround';[328] cf. נָקַף, 'to surround'; תְּקוּפָה, 'circuit.'

*כָּתַל, '*to encompass oneself,' whence כֹּתֶל, 'wall.' √*kl*(1) '*to encompass, surround'; cf. Aramaic כְּלִילָא, 'crown'; Hebrew כָּלָא, '*to surround, shut up, imprison.'

*כָּתַר, '*to surround oneself,' whence כֶּתֶר, 'crown.' √*kr*(1) '*to turn round';[329] cf. כָּרַר, 'to turn round and round'; Ethiopic ከርከረ፡, 'to turn (a mill).'

*שָׁתַן, 'minxit.' √*šn*(2) '*mingere'; cf. שֵׁנִיהֶם (II Kings xviii. 27), 'urina'; Ethiopic ሠገ፡, Assyrian *šanû*, 'mingere.'

נָחַץ, '*to press oneself, be urgent.' √*ḥṣ*(1), '*to press'; cf. לָחַץ, 'to squeeze, press'; Arabic حَاصَ, 'to press together, sew.'

נָטַל, '*to throw oneself over, lift.' √*ṭl*, '*to cast, throw'; cf. טוּל, 'to hurl, cast'; טַלְטֵלָה, 'hurling.'

נָטַף, 'to drip.' √*ṭp*, '*to drop, throw'; cf. Aramaic טוּף, 'to drip'; Neo-Hebrew טִיפָּה, 'drop'; שָׁטַף, 'to overflow.'

*נָעַר, '*to bestir oneself, be full of motion, vigor,' whence נַעַר, 'youth.' √*ar*(2) '*to stir up'; cf. עוּר, 'to be aroused, awake'; סָעַר, 'to storm, rage.'

[327] Later usage has forgotten the original force of this root and the vernaculars have developed forms from a hypothetic biliteral √*ṭq* (cf. ܛܩ, 'to push,' in Neo-Syriac, p. 18). But such a biliteral is not to be found in the early language.

[328] The roots *qf* and *kf* are early differentiated forms.

[329] The roots *kr*(1) and *kl*(1) are early differentiations.

*כָּנַף, '*to bend oneself, *heave'; whence כָּנָף, 'wing.'[330] √*kf*, '*to bend'; cf. כָּפַף, כָּפָה, 'to bend, compel.'

לָחַם, '*to heat oneself,'[331] whence הִלָּחֵם, '*to be heated in battle (reciprocative), fight,' and לֶחֶם, '*nourishment, bread' (Arabic لَحْمٌ, 'meat'). √*ḥm*, '*to burn, be hot'; cf. חָמַם, חוּם, 'to be hot, burn.'

לָחַץ, 'to squeeze, press.' √*ḥṣ* (1),[332] '*to press'; cf. נָחַץ, 'to be urgent'; Arabic حَاصَ, 'to press together, sew'; Syriac ܚܨ, 'to bind, compress.'

אָלַץ, 'to urge.' √*'aṣ*, '*to press';[333] cf. אוּץ, 'to be pressed, make haste.'

בָּלַק, 'to waste, lay waste.'[334] √*bq*, '*to cleave'; cf. *בוּק, '*to be cleft, empty'; בָּקַק, 'to cleave, empty' (Isaiah xxiv. 1).

*מָלַךְ, '*to lead,' root of מֶלֶךְ, '*leader,[335] king.' √*lk*, '*to go'; cf. הָלַךְ, *יָלַךְ, 'to go'; Ethiopic ለአከ፡, 'to send'; Arabic سَلَكَ, 'to travel.'

*רָדַם, '*to be lulled, fall asleep.' √*dm*, '*to lull, quiet'; cf. דָּמַם, 'to be silent'; דּוּמָה, 'silence.'

330 So Lagarde, *op. cit.*, p. xlvii.

331 Not with Wright (*Arabic Gram.*, i. 209) from the Arabic اِلْتَحَمَ, 'to join oneself to.'

332 The Hebrew words חָצַר, חוּץ, 'to divide, separate,' are from √*ḥṣ* (2), '*to cleave,' a differentiation of √*qṣ*.

333 The roots *'aṣ* and *ḥṣ* (1) are differentiations.

334 Cf. Lagarde, *loc. cit.*

335 No satisfactory etymology of this word has hitherto been offered. All the connotations of this root in the kindred languages are secondary—*e. g.* Arabic مَلَكَ, 'to possess exclusively,' or Assyrian *malaku*, 'to counsel, advise.' According to the etymology offered by Levinsohn (שרשי לבנון p. 99) and accepted by the present writer, proto-Semitic מָלַךְ is equivalent to the Biblical מוֹלִיךְ (cf. Deuteronomy viii. 15) and has a causative force. Latin *rex*, 'king,' originally 'director' (cf. *rego*, 'to direct'), is similarly developed (Walde, *op. cit.*, p. 652).

*רָחַשׁ, '*to bestir oneself,' root of מַרְחֶשֶׁת, 'stew-pan.' √*ḥš*(1) '*to stir';[336] cf. חוּשׁ, 'to hasten'; Arabic حَشَّ, 'to hurry.'

פָּרַץ, 'to break through.' √*ps*(1), '*to break, smash';[337] cf. פָּצַץ, 'to break'; פָּצַח, 'to burst forth'; פָּצַע, 'to bruise.'

B. ARAMAIC.

תְּבַע, '*to pray for oneself, demand.' √*b'a*, '*to seek, pray for'; cf. בְּעִי, 'to seek, demand.'

תְּכַל, '*to hope, confide.'[338] √*kl*(3), '*to fasten, fix, trust'; cf. כְּלִי, 'to hope, confide in.'

תְּרַע, 'to split, break up.' √*r'a*-(1), '*to shatter, break'; cf. רָעַע, 'to shatter.'

*כְּתַף, '*to bend oneself,' root of כַּתְפָּא, 'shoulder.'[339] √*kf*, '*to bend'; cf. כְּפַף, כְּפִי, 'to bend'; כְּפַל, '*to bend over fold.'

עֲתַד, '*to prepare oneself,[340] be ready.' √*'ad*, '*to be ready'; cf. Hebrew עוּד, '*to be on hand, witness'; יְעַד, '*to bring into a state of readiness, appoint.'

פְּתַךְ, 'to mix up together.' √*pk*, '*to pour'; cf. שְׁפַךְ, 'to pour out'; הַפַךְ, 'to overturn.'

נְגַר, '*to drag oneself along, last, endure.' √*gr*, '*to harrow, drag'; cf. גָּרַר, 'to drag, draw.'

נְחַם, '*to show warm feelings for, comfort.'[341] √*ḥm*, '*to

[336] Cf. note 290.

[337] The root has infixed the *r* through the influence exerted by √*pr*, '*to cleave.'

[338] Assyrian *takalu*, Arabic تَكِلَ (cf. p. 25), are generally held to be secondary denominatives; but inasmuch as the form is common property both in North and South Semitic, it is more likely an original reflexive stem.

[339] So also Lagarde, *loc. cit.*

[340] Lagarde, *loc. cit.*

[341] The root *nḥ*, 'to breath, rest' (Hebrew נוּחַ, Aramaic יְנַח, 'to rest,' Arabic نَحَمَ, 'to breathe'), has influenced the development of

burn, be hot'; cf. חָמַם, 'to be warm'; שָׁחַם, '*to be burnt, brown.'

נָקַב, 'to bore out, hollow.' √*qb*, '*to bore'; cf. קוּבְתָא, 'room'; קִבְתָא, 'inside walls of the stomach'; Hebrew קֵב, 'pail, measure.'

נָקַם, '*to arise for oneself, revenge.' √*qm*, '*to stand, arise'; cf. קוּם, קִים, 'to stand, arise.'

צָנַיף, 'to twitter, chirp.' √*ṣp*$_{(2)}$, '*to chirp'; cf. נְצַיף, 'to twitter, chirp'; Hebrew צִפְצֵף, 'to chirp.'

לָחַשׁ, 'to speak in a whisper.' √*ḥš*$_{(3)}$, '*to whisper'; cf. חַשַׁיי, 'whisperings'; Hebrew נָחָשׁ, '*hissing one, serpent'; נַחַשׁ, 'to foretell' (of an oracle).[342]

מָלַט, '*to slip away, escape.' √*mṭ*, '*to slip'; cf. מוּט, 'to slip.'

מְטָא, 'to reach.' √*t'a*, '*to extend, turn'; cf. יְטָא, 'to reach.'

מָרַע, '*to be broken up, sick.' √*r'a*$_{(1)}$, '*to shatter, break'; cf. רָעַע, 'to break.'

שְׁמַד, 'to destroy.'[343] √*šd*, '*to throw over'; cf. שְׁדִי, 'to throw'; Hebrew שָׁדַד, 'to devastate'; שׁוֹד, 'violence, ruin.'

רָחַם, '*to feel heat, be impassioned, love.' √*ḥm*, '*to burn, be hot'; cf. חָמַם, 'to be hot.'

חָרַשׁ, 'to become dumb.' √*ḥš*$_{(3)}$, '*to whisper'; cf. לָחַשׁ, 'to whisper'; חַשַׁיי, 'whisperings'; Hebrew נָחָשׁ, 'serpent.'

the connotations of this root. Hebrew הִנָּחֵם, accordingly, means 'to feel sorry' (Cf. Haupt, *BA.*, vi. 2, note 22). The kindred form רָחַם, 'to love' (Hebrew, 'to comfort'), proves conclusively that etymologically נָחַם is to be joined to √*ḥm*.

342 The two roots are also connected by Baudissin, *Studien zur semitischen Religionsgeschichte*, Leipzig 1876, i. 281, 287. See, however, Lagarde, *K. Gesellschaft der Wissenschaften zu Göttingen*, xxxv. 50.

343 The infixed *m* is due to the influence of √*šm*$_{(2)}$ (Hebrew שָׁמַם, 'to lay waste').

C. SYRIAC.

ܐܟܣ, 'to rout, repel.' √*ks*, *'to cut'; cf. ܡܟܣ, 'to cut off'; ܢܟܣ, 'to slay.'

ܐܠܚ, *'to cut oneself off, split.' √*lḥ*, *'to cut'; cf. ܠܚܫ, *'to cut off, blot out'; ܠܘܚ, ܠܚܫ, 'board, tablet.'

ܐܪܥ, 'to cleave, divide.' √*r'a*(1), *'to shatter, break'; cf. רָעַע, 'to break.'

ܫܚܪ, *'to kindle oneself, be aroused.' √*ḥr*, *'to burn'; cf. Aramaic *חֲרַר, *'to burn'; ܫܚܪ, *'to burn to blackness.'

ܦܫܩ, 'to force apart, break, shatter.' √*pq*, *'to force apart,' 'come forth';[344] cf. ܢܦܩ, *'to force oneself out, go away,' ܦܚ, 'to force out the breath, sneeze.'

ܢܫܪ, *'to make a sound through the nostrils, neigh,' denominative from ܐܢܦ, 'nose.' √*ḥr*, *'to dig'; cf. Hebrew חֹר, 'hollow'; Assyrian ḫarû, *ḫaru*, 'to dig'; Hebrew נָחִיר, 'nostril'; Aramaic נְחִירָא, 'nostril.'[345]

ܫܚܬ, 'to go down.' √*ḥt*, *'to undermine, level'; cf. ܐܫܚ, *'levelled, below'; ܐܫܚ, 'to undermine, destroy.'

ܢܦܚ, 'to blow.' √*ph*, *'to blow'; cf. ܦܚ, 'to blow up.'

ܢܦܥ, *'to shake oneself up, quiver.' √*pr*(2), *'to shake,[346] tremble'; cf. ܦܪ, 'to quiver with emotion'; ܦܪܦܪ, 'to shake, tremble'; פּוֹר הִתְפּוֹרָרָה, 'it is split up' (Isaiah xxiv. 19).

ܙܪܚ, *'to push oneself forth, arise, shine' (of the sun)[347].

[344] The Arabic always uses this root in the special sense of 'to come forth high' (cf. وَفَقَ, p. 82). The infixation of *t* in ܐܦܫܩ may be due largely to the influence of √*pt* (Hebrew פָּתַת, 'to crumble').

[345] Hebrew נָחַר, Arabic نَخَرَ, 'to snort' are denominatives from the word for 'nostril.'

[346] √*pr*(2) '*to shake' is developed from √*pr*(1) '*to cleave, break.'

[347] This is generally held to be a dissimilated form of Hebrew זָרַח, 'to shine,' but ܙܪܚ proves its connection with √*dḥ*. The root זָרַח is from a biliteral √*zḥ*, '*to shine,' the differentiated forms of which are √*zk* (cf. Hebrew זַךְ, 'pure') and √*zh* (cf. זָהַר, 'to shine,' זָהָב, 'gold').

√*dḥ*, '*to push'; cf. ܕܚܐ, 'to push'; ܢܬܚ, 'to break forth, arise (of the sun).'

*ܒܚܠ, '*to bestir oneself,' whence pa'el ܒܚܠ, 'to arouse, stir up.' √*bṭ*, '*to beat, poke'; cf. ܒܛܛ, ܒܛܒܛܐ, 'spark'; Aramaic בְּטַט, 'to flame up'; Hebrew חָבַט, 'to poke'; Aramaic בְּלַט, '*to push forth, project.'[348]

ܢܚܫ, 'to arouse, stir up.' √*dḥ*, '*to push'; cf. ܕܚܐ, 'to push'; ܢܫ, 'to break forth, shine.'

ܫܚܬ, '*to change, become corrupt.' √*dr*, √*zr*, '*to turn, twist, change'; cf. Hebrew *דָּרָא, 'to become corrupt'; זוּר, 'to be loathsome'; Neo-Hebrew מָזַר, 'to twist, be loathsome, spoiled' (secondary denominative) (p. 23).[349]

ܦܫ, 'to swell up.' √*ph*, '*to blow'; cf. ܦܘ, 'to blow, diffuse.'

ܒܪܩ, '*to break forth (of light), lighten, flash.' √*bq*, '*to cleave'; cf. ܒܩܥ, '*to break into, explore'; ܒܩ, '*to break into, explore'; Aramaic בְּקַע, 'to cleave.'

D. ASSYRIAN.

תבא, *tibû*, 'to make an invasion, rise against.' √*b'a*, '*to enter'; cf. בוא, *ba'u*, 'to come.'

תבק, *tabaku*, 'to pour, spill.' √*bk*, √*pk*, '*to pour, shed'; cf. בכה, *bakû*, 'to shed tears'; שפך, *šapaku*, 'to pour out.'

בתק, *bataqu*, 'to cut through.'[350] √*bq*, '*to cleave'; cf. בקם, *baqamu*, 'to cut off.'

[348] The word cannot be, as Levy (*NHbCWB*) maintains, from the Greek βλασταίνω, but is clearly the same as ܒܚܠ in Syriac. The Assyrian *balaṭu*, 'to live,' hitherto unsatisfactorily explained, is also most likely a development from √*bṭ* and may have developed from an original meaning of 'to bestir oneself.' (Cf. English *quick*, Latin *vivo*, 'to live,' Greek βίος, 'life,' all from an original connotation of 'quick movement.') See Skeat, *Etymological Dictionarg*, p. 484.

[349] Both roots were early differentiated (into *z*1 and *z*2), but analogy has caused a constant interaction of one upon the other. Hebrew זָר, 'stranger,' is most likely from √*zr*.

[350] Cf. p. 75.

*דתן, root of *datnu*, 'strong,' *ditanu*, 'mighty beast.' √*dn*, 'to be strong'; cf. *דנן, whence *dannu*, 'strong, powerful'; דין, *dânu*, '*to use power, judge.'

*אתל$_4$, root of *etlu*, 'great, lofty,' *etellu*, 'lord, ruler.' √*'al*, 'to ascend'; cf. אלה$_4$, *elû*, 'to be high, mount.'

נחל, *naḫalu*, 'to bore a hole.' √*ḫl*, '*to bore, dig'; cf. סחל, *saḫalu*, 'to bore through'; Hebrew חָלַל, 'to pierce.'

נטל, *naṭalu*, 'to cast a glance.'[351] √*ṭl*, '*to cast, throw'; cf. Hebrew טוּל, טָלַל, 'to cast, hurl.'

נסח, *nasaḫu*, 'to tear out, pluck.' √*sḫ*, '*to tear'; cf. סחה, *saḫu*, 'to destroy, ruin.'

נרט, *naraṭu*, '*to begin to quiver (of the feet), become heavy.' √*rṭ*, '*to shake'; cf. Aramaic רָטַט, 'to tremble'; Hebrew רָטַט, 'to be precipitate'.

מחץ, *maḫaṣu*, 'to beat, break to pieces.' √*ḫṣ*$_{(2)}$, '*to break, divide'; cf. חצץ, *ḫaṣaṣu*, 'to break, smash.'

רפש, *rapašu*, 'to become wide, extend.' √*pš*, '*to increase'; cf. פוש, *pâšu*, 'to increase'; Hebrew פָּשָׂה, 'to spread, be divulged.'

רשד, *rašadu*, 'to found, establish.' √*sd*, '*to found'; cf. *ešdu*, 'foundation.'

צרח, *ṣaraḫu*, 'to cry, roar.' √*ṣḫ*, '*to roar'; cf. Hebrew צָרַח, צָוַח, 'to cry, roar.'

צרף, *ṣarapu*, '*to cover with paint, dye.' √*ṣp*$_{(1)}$, *ṣb*, '*to cover'; cf. Hebrew רִצְפָּה, 'pavement'; צָפָה, 'to cover'; צִפֹּרֶן, *ṣupru*, 'finger-nail'; Assyrian צבא$_5$, *ṣibû*, 'dyed'; Hebrew צָבַע, 'to dye.'

E. ARABIC.

تَآمَ, 'to be twinborn,' whence تَوْءَم, 'twin'[352] (Hebrew תְּאוֹמִים, 'twin'). √*'am*; reflexive of وَآمَ, 'to agree mutually, imitate.'

[351] The Hebrew *נבט (cf. הִבִּיט, 'to look down') has undergone a similar development from √*bṭ* (cf. p, 90).

[352] Fleischer (*Kleinere Schriften*, p. 56) thinks that it is a secondary

تَبَنَ, 'to become skillful.' √*bn*, 'to understand'; cf. بَانَ, 'to excel'; بَوْنٌ, 'excellence'; Hebrew בִּין, 'to understand.'

تَعِبَ,[353] 'to become weak, tired.' √*ʿab*, '*to fail, weaken'; cf. عَابَ, 'to become faulty, unsound.'

رَتَعَ, 'to graze.'[354] √*rʿa*$_{(2)}$, '*to graze; cf. رَعَا, 'to pasture, graze.'

شَتَمَ, 'to reproach, be hateful.' √*śm* '*to hate'; cf. شَأَمَ, 'to be unlucky, inauspicious.'

كَتَمَ, 'to conceal.' √*km*, '*to cover'; cf. كَمَّ, 'to cover.'

لَتَبَ, 'to be firm.' √*lb*;[355] cf. لَبَّ, 'to have heart, understanding, courage.'

نَجِزَ, '*to be cut off, perish.' √*gz*, '*to cut'; cf. جَزَّ, 'to cut'; جَازَ, '*to be cut off from, leave behind.'

نَذَلَ, 'to become low, base.' √*ḏl*, '*to be low, mean'; cf. ذَلَّ, 'to be low, base'; ذَالَ, 'to be low, on the ground.'

نَقَصَ, '*to be cut off, diminish.' √*qṣ*, '*to cut'; cf. قَصَّ, 'to cut'; قَصُرَ, 'to become short.'

نَكَبَ, 'to turn aside, deviate.' √*kb*, '*to bend, turn';[356] cf. كَبَّ, 'to invert'; كَبَا, 'to fall prostrate.'

*جَنَبَ, '*to be hollow,' whence جَنْبٌ, 'flank, side.'[357] √*gb*$_{(1)}$, '*to cut out, hollow'; cf. جَبَّ, 'to cut out'; جُبٌّ, 'well'; جَابَ, 'to make a hole, perforate.'

لَفَحَ, 'to blow over, strike gently.' √*fḥ*, '*to blow'; cf. فَحَّ,

stem. But the word for 'twin' is a common heirloom and must go back to proto-Semitic.

[353] As has already been shown (p. 26) most Arabic stems with prefixed *t* are secondary denominatives.

[354] Cf. Mez, *loc. cit.*

[355] Cf. note 293.

[356] √*kb* and √*kp*, '*to bend', are differentiations.

[357] جَنَبَ, 'to break the side,' or 'lead by the side,' are secondary meanings.

'to blow, hiss (of a viper)'; فَاحَ, 'to be diffused'; نَفَحَ, 'to blow gently.'

مَجَدَ, 'to be fortunate, become glorious.' *√gd*, '*to cut, destine'; cf. جَادَ, 'to be good, excellent'; جَدّ, 'fortune, luck.'

رَذُلَ, 'to become low, base, vile.' *√dl*, '*to be low, mean'; cf. ذَلَّ, 'to be low, base'; نَذُلَ, 'to become low, base.'

رَشَدَ, '*to be strong in belief, follow a right course.' *√śd*, '*to be hard, firm'; cf. شَدَّ, 'to be hard, strong, persistent'; شَدَنَ, 'to become strong, mature.'

F. ETHIOPIC.

ተከለ፡, 'to fix, fasten.' *√kl*$_{(3)}$, '*to make firm, fasten'; cf. Arabic وَكَلَ, 'to rely on oneself'; Aramaic תְּכַל, כְּלִי, 'to confide in.'

*ተከፈ፡, '*to bend oneself,' whence መትከፍት፡, 'shoulder.' *√kf*, '*to bend'; cf. Arabic كَتِف, كَفّ, 'shoulder'; ካፍ፡, ካፌ, 'palm.'

*ተገረ፡, '*to draw, drag,' whence መትገር፡, 'rope.' *√gr*, '*to harrow, drag'; cf. Arabic جَرَّ, 'to drag, pull.'

ነተዐ፡,[358] 'to flee.' *√n'a*, '*to move'; cf. ነዐወ፡, 'to run down game'; Arabic نَاعَ, 'to be moved'; Hebrew נוּעַ, 'to shake, wave.'

ከደነ፡, 'to cover.' *√kn*$_{(2)}$, '*to cover';[359] cf. *ከዘዘ፡, '*to cover,' whence መክዘን፡, 'hidden, unknown'; Arabic كَنَّ, 'to conceal.'

ሠሠተ፡, 'to destroy, demolish.' *√št*, '*to tear down'; cf. ሠተረ፡, 'to lacerate, massacre'; Arabic شَتَّ, 'to break up, disorganize.'

[358] Praetorius (*BA.* i. 25) thinks that the two following roots are secondary denominatives.

[359] *√kn* and *√km*, '*to cover,' are differentiations.

ዝሠገ፡, 'to close up, obstruct.' √*śg*, '*to close up'; cf. ሠገረ፡, '*to close up, capture in a net'; Arabic شَجَرَ, 'to complicate, confuse'; شَجِيَ; 'to become obstructed (of the throat), be choked.'

*ነገለ፡, '*to be uncovered, exposed,' whence መንገል፡, 'opposite, towards.' √*gl*, '*to roll'; cf. ገለወ፡, 'to uncover, cover'; *ገለየ፡, '*to uncover, make plain.'

መረደ፡, 'to run quickly.' √*rd*$_{(2)}$, '*to run';[360] cf. ሮደ፡, 'to run swiftly, assault'; ረዳአ፡, 'to run to the assistance of someone.'

ረገዘ፡, 'to cut the throat, slay.' √*gz*, '*to cut'; cf. *ገዘዘ፡, 'to divide off, wall around'; ገዘወ፡, 'to divide up'; ገዘመ፡. 'to cut down'; ገዘረ፡, 'to circumcise.'

vi

Stems with Post-Determinatives. The post-determinatives of the triliteral root have already been identified with the sufformatives of the pluriliteral (p. 66), although the individual force that these gave to the root can no longer be determined. The use of post-determinatives is so extensive that only a few examples need be noted here. In Hebrew the root *pr*$_{(1)}$, '*to cleave, break, tear,' yields the following derivatives with sufformatives: פָּרַח, '*to break forth, sprout, shoot'; *פָּרַע, '*to break forth, sprout'; פָּרַם, 'to tear, rend'; פָּרַשׂ, 'to spread out'; פָּרַס, 'to break in two'; פָּרַד, 'to divide': and פָּרַק, 'to tear apart.'[361] The root *gz*, '*to cut, shear,' appears with various sufformatives in the following verbs: *גָּזַע, 'to cut off'; *גָּזַם, 'to crop'; גָּזַר, 'to cut'; and גָּזַל, 'to plunder.' In Aramaic the root *ḥṣ*$_{(2)}$, '*to hew, cut down,' yields חָצַב, 'to hew down'; חָצַף, '*to cut deeply,

[360] √*rd*, √*rṭ*, and √*rṣ* (Hebrew רוּץ) are differentiated biliterals.

[361] The *q* may have been due to the influence of √*pq* '*to come or break forth.'

be impudent to someone'; חָצַד, 'to mow, harvest.' The root *r'a*(1), *to shatter, break,' appears in רָעַל, 'to quiver'; רָעַם, 'to thunder'; רָעַשׁ, 'to quiver, shake'; and רָעַד, 'to tremble.' In Syriac the root *pq*, *to break, burst,' is the source of ܦܨܣ, *to break forth, sprout, flourish'; ܦܨܕ, 'to split, divide'; and ܦܨܚ, *to break loose, go mad.' The root *gr*, *to harrow, drag,' yields ܓܪܛ, 'to spoil, plunder'; ܓܪܥ, 'to drag down (of a torrent),' and ܓܪܫ, 'to scratch, rub off.' In Assyrian the root *kr*(2), *to dig, undermine,' yields כרם, *karamu*, 'to undermine, ruin'; *karâšu*, 'destruction, ruin'; and כרת, *karatu*, 'to cut off.' The root *ḫr*, *to dig, undermine,' is the basis of חרב, *ḫarabu*, 'to be waste'; חרך,[362] *ḫaraku*, 'to cut in, dig out'; and חרמם, *ḫarmamu*, 'to ruin.' In Arabic the root *gm*, *to be many, collect' (cf. جَمَّ), receives sufformatives in جَمَعَ, 'to collect'; جَمَّرَ, 'to collect'; and أَجْمَلَ, 'to collect.' From the root *rṣ*(2) *to stick, adhere' (cf. رَصَّ) رَصَعَ, 'to stick, adhere'; رَصَفَ, 'to join together,' and رَصَنَ, 'to be compact, solid.' In Ethiopic the root *gl*, *to roll about, uncover, cover,' appears in the following four forms with sufformatives: ገልጠ፡, 'to cover'; ገለደ፡, 'to cover over'; ገለጸ፡, 'to uncover, reveal'; and ገለፈ፡, *to unfold, sculpture.'

[362] A few instances are found where *k* functions as post determinative (cf. Haupt, *AJSL.*, xxiii. 252).

CHAPTER IV

SUMMARY OF RESULTS

A complete survey of the possibilities of the biliteral theory as a source for the solution of many vexed problems in Semitic philology scarcely lies within the purview of the present monograph; and it will, accordingly, be sufficient briefly to summarize the more important conclusions to which our investigations have led.

It is evident, first of all, that the Semitic root was originally biliteral, although whether it was also monosyllabic is a question which, in the present state of knowledge, cannot definitely be answered. The original biliteral developed its triliteral form by the addition of formative elements to express various functions of the stem, these functions being similar to those that are still performed by many of the very same formatives throughout the Semitic dialects. The formative elements are demonstrative in origin, so that the triliteral Semitic root is, for the most part, made up of a primitive biliteral plus a demonstrative root. When, in the course of time, analogy cast all roots into a triliteral mould, the original functions of the various stem-formatives were forgotten, or were identified with the functions of kindred stem-formatives, an additional factor probably being the phonological affinity of certain of the formative elements involved. All this resulted in a general confusion between classes of verbs which had originally been independent, and gave rise to the so-called weak-verb.

It was formerly thought that the biliteral theory was of service only in the interpretation of many obscure ἅπαξ λεγόμενα, and it is true that at times this hypothesis must thus

be brought into requisition, although it can, by the very nature of the case, only imperfectly elucidate a word which has, in most cases, passed through a long process of development from its original form. The biliteral theory, strictly speaking, is concerned solely with the most primitive form of the Semitic stem, and is useful only in the field of pure etymology. In the biliteral theory the comparative philologist may possibly find a criterion to determine the degree of affinity between the Semitic and other groups of neighboring languages.[363]

In the field of specifically Semitic etymology, which includes the history of Semitic words, the value of this theory of the original biliteral character of the Semitic root can scarcely be overestimated. A single complex development of one Semitic root will show this clearly. The group of consonants which compose the root *ḥr*, '*to burn, heat,' is evidently primitive. The intensive form *חָרַר, must have signified in Aramaic '*to burn,' as is evident from חֲרָרָא, 'cake.' The stative (ע״ו) stem denotes the condition of being burned by the sun, bleached. Secondarily, it is the term for 'white' in Semitic: Hebrew חוּר, 'white stuff'; Aramaic and Syriac חָוָר, Arabic حَوِرَ, 'white'; the last two forms being pa'el denominatives. In the second stative stem (ל״ו) the root denotes subjective heat, anger; חָרָה, חֲרִי, حرو, 'to be kindled with anger.' In its causative form, שָׁחַר, سحر, it means '*to burn to blackness,' and thus becomes the term for 'black.' Perhaps it may have originally connoted the idea of glowing, being burnt red hot, and thus have given rise to שַׁחַר, سَحَرٌ, 'dawn,'[364] a word which has hitherto

[363] Möller has of late attempted to solve the much-mooted question of the kinship between Semitic and Indo-Germanic (cf. *Vergleichendes indogermanisch-semitisches Wörterbuch*; *Semitisch und Indogermanisch).*

[364] Cf. German *Morgenröthe*; English *aurora* (for older *ausosa*)

received no better etymology.[365] The direct reflexive form in Syriac denotes 'to heat oneself' (cf. ܫܚܡ, 'to be agitated'). In the sufformative stem חָרַם, حَرُمَ, ሐረመ፡, the root *ḥr* denotes conditions occasioned by fire, thus '*to destroy by fire as an offering to God'; secondarily, 'to devote, consecrate to God.'

Early differentiated forms of the root *ḥr* are the synonomous roots *ḥm*, *ḥl*(2). The first of these has had a similar development, although more extensive than that of *ḥr*. The intensive and stative forms, Hebrew חַמַּם, חָמָה, יָחַם, have almost merged in meaning, and denote the state of being hot. Hebrew חוּם, and the causative forms שְׁחַם, ܐܫܚܡ, in Aramaic and Syriac (Arabic سَخِمَ), denote brownness or blackness. The reflexive *נָחַם means '*to feel heat in oneself,' thus developing the meaning 'to have warm feelings for, comfort' in the causative pi'el נִחַם[366]. The kindred stems *לָחַם and *רָחַם likwise mean 'to feel warmth, heat, a burning sensation,' thus explaining הִלָּחֵם, 'to engage in combat,' לֶחֶם, 'bread,' Arabic لَحْمٌ, 'meat' (originally '*nourishment'), and Aramaic רְחֵם, 'to love,' Hebrew רַחֲמִים, 'mercy,' רָחַם, 'to pity,[367] Arabic رَحِمَ, 'to have compassion.' The sufformative stem חָמַר, 'to burn, be red,' Arabic أَحْمَرُ, 'red,' has given rise to the words חֲמוֹר, حِمَارٌ, 'donkey,' יַחְמוּר, 'roebuck,' and perhaps חֹמֶר, 'red-clay, cement.' Finally, the root *ḥl* is still preserved in the Ethiopic ሐሐለ፡, 'to scorch, burn.'

'glowing, shining' (Skeat, *op. cit.*, p. 43). It is possible that both redness and blackness should be expressed by the same root (cf. שְׁחַם).

365 Cf. Fürst, *Lexicon*, p. 1370.

366 Cf. note 341.

367 Gesenius-Brown-Driver compare it, however, with Arabic رَخُمَ, 'to be soft, gentle,' which is rather from a biliteral *rḫ* (cf. Arabic رَخَّ, 'to be soft'), a differentiation of *√rk* (cf. Hebrew רַךְ, 'tender').

INDEX OF ROOTS

'ab, '*to desire' 77, 80, 86, 95.
'ab, '*to fail, weaken' 103.
'ad, '*to be ready' 77, 87, 98.
'al, '*to ascend, elevate' 77, 102.
'am 102.
'aq, '*to squeeze' 79.
,ar(1), '*to uncover' 78.
'ar(2), '*to stir up' 96.
'aṣ, '*to press, strain' 81, 97.

b'a, '*to enter' 101.
b'a, '*to seek, pray for' 98.
bd, '*to divide, separate' 83, 89, 90, 93.
bk, '*to pour, shed' 101.
bl(1), '*to confuse, confound' 77, 80, 91, 92.
bl(2), '*to go, flow' 80.
bn, '*to divide, understand' 103.
bq, '*to cleave' 75, 85, 86, 90, 97, 101.
br(1), '*to cut apart, cleave, separate, split' 79, 86, 91, 95.
br(2) 91.
bš, '*to be putrid, foul' 86, 95.
bṭ, '*to beat, poke, strike' 90, 92, 101, 102.
bṭ, '*to cut off, sever' 89, 93.

db(1), '*to toil, labor' 94.
db(2), '*to flow' 94.
dḥ, '*to push' 79, 101.
dk, '*to pound, crush, beat' 78, 88.
dl, '*to lift' 78, 94.
ḏl, '*to be low, mean' 103, 104.
dm, '*to lull, quiet' 95, 97.
dn, '*to be strong' 102.
ḏn, '*to adhere' 84.
dp, *df*, '*to beat, knock' 90, 91, 93.
dq, '*to pound, grind' 90, 93.
dr, '*to turn' 86, 88, 91, 92.
ḏr, '*to turn, twist' 101.

fḥ, '*to blow' 103.
fz, '*to hurry, bestir oneself' 82.

gb(1), '*to cut out, hollow' 103.
gb(2), '*to be high' 79.
gd, '*to cut' 83, 104.
gh, '*to face' 82.
gl, '*to roll about' 78, 79, 90, 105, 106.
gm, '*to collect, be many' 106.
gr, '*to harrow, drag' 76, 91, 93, 94, 98, 104, 106.
gš(1), '*to sigh, be afflicted' 88.
gš(2), '*to feel' 94.
gz, '*to cut' 80, 95, 103, 105.

ḥd, '*to pierce, sharpen' 79, 91.
ḥf, '*to cover' 96.
ḥk, '*to harass' 84.
ḥl(1), '*to shake' 80.
ḥl(2), '*to burn' 109.
ḫl, '*to dig out, undermine' 80, 82, 84, 102.

hm, '*to roar' 96.
ḥm, '*to burn, heat' 76, 84, 91, 97, 98, 99, 109.
hn, '*to wane, be deficient' 83.
ḥq, '*to cut, carve' 78, 91.
ḥr, '*to burn' 81, 92, 100, 108, 109.
ḥr, '*to dig' 82, 84, 100, 106.
ḥs, '*to spare' 83.
ḥṣ (1), '*to press' 96, 97.
ḥṣ (2), '*to cleave, divide, break' 82, 97, 102, 105.
ḥš (1), '*to stir' 83, 98.
ḥš (2), '*to feel' 83.
ḥš (3), 'to whisper' 83, 99.
ḥt, '*to undermine, level' 89, 95, 100.
ḥẓ, '*to have good fortune' 83.

kb, '*to bend, turn' 103.
kf, '*to bend' 79, 92, 96, 97, 98, 104.
kl (1), '*to encompass, surround' 76, 89, 91, 95, 96.
kl (2), to finish, consume' 91.
kl (3), '*to fasten, fix, trust' 98, 104.
km, '*to cover' 103, 104.
kn (1), '*to bring to the ground' 87, 92.
kn (2), '*to cover' 104.
kp (*kf*), '*to bend' 92.
kr (1), '*to turn round' 96.
kr (2), '*to dig, undermine' 80, 84, 106.
ks, '*to cut' 100.

lb, '*to flutter?' 85, 103.
lg, '*to keep on going, engage in' 83.
lḥ, '*to cut' 100.
lk, '*to go' 87, 97.
lṣ, '*to make merry, say fine words' 79.
lš, '*to lick' 89.
lṭ, '*to cover' 86.
md, '*to extend, measure' 88.
mk, '*to sink' 98.
mr, '*to exchange' 87.
ms, '*to melt' 78.
mṭ, '*to turn, slip' 84, 99.
mz, '*to grow sour' 94.

n'a, '*to move' 104.
nḥ, '*to breathe, rest' 79, 98.

pḥ, *fḥ*, '*to blow' 100, 101, 103.
pk, '*to pour, shed' 90, 98, 101.
pl, '*to separate, cleave' 78.
pq, *fq*, '*to come or break forth, force apart' 82, 100, 106.
pr (1), '*to cleave, break apart' 87, 98, 105.
pr (2), '*to shake' 100.
pṣ (1), '*to break, smash, cleave' 80, 93, 98.
pṣ (2), '*to spread' 92, 93.
pš, '*to increase' 102.
pt, '*to crumble' 100.

q'a, '*to thrust at' 96.
qb, '*to bore 99.
qf, '*to surround' 96.
qm, '*to stand, arise' 99.
qr, '*to dig' 84, 86, 95.
qṣ, '*to cut' 90, 97, 103.
qš, '*to strike at, aim at' 77.
qṭ, '*to cut off' 90.

r'a (1), '*to shatter, break' 79, 86, 98, 99, 100, 106.
r'a (2), '*to graze' 103.
rb, '*to grow, increase' 82, 88.
rd (1), '*to go, march' 81.
rd (2), '*to run' 105.
rf, '*to flutter' 87.
rḫ, '*to be soft' 84, 109.
rk, '*to be soft' 109.
rm, '*to be high' 80.

rq, '*to thrust' 84.
rṣ(1), '*to smash' 86.
rṣ(2), '*to stick, adhere' 106.
rṭ, '*to shake' 86, 102.

s'a, '*to turn, pay attention' 77.
ṣb, '*to cover' 102.
šb(1), '*to mix' 94.
šb(2), '*to be high' 94.
sd, '*to establish' 87, 102.
šd, '*to be hard, firm' 104.
šd, '*to throw over' 99.
sf, '*to sweep' 76, 81.
ṣf, '*to gaze at' 80.
šf, '*to smear' 88.
šg, '*to close up' 105.
ṣḥ, '*to tear' 102.
ṣḥ, '*to be clear' 84.
ṣḥ, '*to roar' 102.
ṣl, '*to sound, ring' 87.
šl, '*to quiet, pacify' 82.
šm(1), '*to mark' 82.
šm(2), '*to destroy' 99.
šm, '*to hate' 103.
šn(1), '*to quiet, lull' 82, 89.
šn(2), '*mingere' 96.
ṣp(1), '*to cover' 102.
ṣp(2), '*to chirp' 99.

šq, 94.
ṣr, '*to bind' 81, 92.
šr(1), '*to saw' 84.
šr(2), '*to go straight' 90.
št, '* to wave to and fro' 77, 87.
št, '*to break, cleave, tear down' 88, 104.

ṭ'a, '*to extend, turn' 78, 99.
ṭb, '*to impress, fix, be good' 78, 81, 83.
ṭḥ, '*to spread over' 92, 94.
ṭl, '*to cast, throw' 96, 102.
ṭm, '*to obstruct, close up' 81.
ṭp, '*to drop, throw' 96.
ṭq, '*to cleave' 94.
tq, 96.
ṭr, '*to cut into' 94.
tr, '*to run' 88.

zb, '*to go, flow' 93, 94.
zf, '*to be strange, foreign' 80.
zh, '*to shine' 81.
zḥ, '*to shine' 100.
zk, '*to shine, be pure' 82, 100.
zl, '*to flow' 92.
zn, 91.
zr, '*to turn, twist' 89, 101.

COLUMBIA UNIVERSITY PRESS

Columbia University in the City of New York

COLUMBIA UNIVERSITY ORIENTAL STUDIES

Edited by RICHARD J. H. GOTTHEIL

VOL. I. THE IMPROVEMENT OF THE MORAL QUALITIES

An Ethical Treatise of the Eleventh Century by SOLOMON IBN GABIROL. Printed from an unique Arabic manuscript, together with a translation and an essay on the place of Gabirol in the history of the development of Jewish Ethics. By STEPHEN S. WISE, Ph. D. 8vo, cloth, pp. xi + 117. Price, $1.25 *net.*

VOL. III. OLD BABYLONIAN TEMPLE RECORDS

By ROBERT JULIUS LAU, Ph. D. 8vo, cloth, pp. xi + 89 + 41. Plates. Price, $2.50 *net.*

VOL. IV. SIDON

A Study in Oriental History. By FREDERICK CARL EISELEN, Ph. D. 8vo, cloth, pp. vii + 172. Price, $1.50 *net.*

VOL. V. A HISTORY OF THE CITY OF GAZA

From the Earliest Times to the Present Day. By MARTIN A. MEYER, Ph. D. 8vo, cloth, pp. xiii + 182. Price, $1.50 *net.*

VOL. VI. THE BUSTAN AL-UKUL

By NATHANAEL IBN AL-FAYYUMI. Edited and translated from an unique manuscript in the Library of Columbia University. By DAVID LEVINE, Ph. D. 8vo, cloth, pp. xvi + 142 + 88. Price, $2.50 *net.*

VOL. VII. THE EIGHT CHAPTERS OF MAIMONIDES ON ETHICS

By JOSEPH I. GORFINKLE, Ph. D. 8vo, cloth, pp. xii + 104 + 55. Price, $2.00 *net.*

274

LEMCKE & BUECHNER, AGENTS

30-32 WEST 27th ST., NEW YORK

COLUMBIA UNIVERSITY PRESS

Columbia University in the City of New York

COLUMBIA UNIVERSITY CONTRIBUTIONS TO ORIENTAL HISTORY AND PHILOLOGY

Edited by RICHARD J. H. GOTTHEIL and JOHN DYNLLEY PRINCE

No. I. SUMERIAN HYMNS

From Cuneiform Texts in the British Museum. Transliteration, translation, and commentary. By FREDERICK VANDERBURGH, Ph. D. 8vo, pp. xii + 83. Price, paper, $1.00; cloth, $1.50 *net.*

No. II. THE HISTORY OF THE GOVERNORS OF EGYPT

By ABU UMAR MUHAMMAD IBN YUSUF AL-KINDI. Edited from a unique manuscript in the British Museum. By NICHOLAS AUGUST KOENIG, Ph.D. 8vo, paper, pp. 33 + 33. Price, $1.00 *net.*

No. III. ASSYRIAN PRIMER

An Inductive Method of Learning the Cuneiform Signs. By J. DYNELEY PRINCE, Ph. D., Professor of Semitic Languages, Columbia University. 8vo, paper, pp. 58. Price, $1.00 *net.*

No. IV. THE WITNESS OF THE VULGATE, PESHITTA AND SEPTUAGINT TO THE TEXT OF ZEPHANIAH

By SIDNEY ZANDSTRA, Ph.D. 8vo, paper, pp. 52. Price, $1.00 *net.*

No. V. TIGLATH PILESER III

By ABRAHAM S. ANSPACHER, Ph. D. 8vo, cloth, pp. xvi + 72. Price, $1.25 *net.*

No. VI. ROOT-DETERMINATIVES IN SEMITIC SPEECH.

By SOLOMON THEODORE HALÉVY HURWITZ, Ph. D. 8vo, cloth, pp. xxii + 113. Price, $1.50 *net.*

LEMCKE & BUECHNER, AGENTS

30-32 WEST 27th ST., NEW YORK

Date Due

0 1 3 39

FACULTY

JUN 15 1971

JUN 15 1972

JUN 15 1973

PJ3031 .H96
Root-determinatives in Semitic speech; a
Princeton Theological Seminary-Speer Library
1 1012 00027 3450